

'It's Important to Know In Time'

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The Newspaper of the Industry

Air Conditioning & REFRIGERATION

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WPB Control of Materials Aids Civilian Needs

Nelson Says 'Conversion' Is Nearly Completed; Staff Changes Made

WASHINGTON, D. C.—The War Production Board will have the last word in determining how much of the limited supply of raw materials and finished products will be allocated to the armed forces, and how much will be set aside to maintain a "slim" but nevertheless efficient civilian economy, Donald M. Nelson, WPB chief, declared at a recent press conference, which some observers viewed as a triumph for civilian control of our War Economy.

In explaining the realignment of the WPB Mr. Nelson said that a directive from President Roosevelt gave him "all the control I need" over the Army and Navy Munitions Board in the determination of allocation of available supplies of materials.

Mr. Nelson said the country was through the "curtailment" stage in the War production program and, except for using to the full the capacities of small plants, had completed its "industry conversion" step in the War effort.

This statement, plus the one made at a recent Detroit meeting by Robert Nathan, WPB planning chief, to the effect that consideration is again being given to the "Victory" model idea whereby one plant or a few small plants make one trade-nameless model of an appliance or other item that has been curtailed, gave credence to some guesses that by the end of the year there may be given more "go-ahead" for the production of civilian goods.

The key to the situation is the shortage of materials, and whether or not the scrap collection programs can fill out the shortage of raw materials being taken out of the ground.

Houghton Now Heads Operating Division

WASHINGTON, D. C.—A realignment of the War Production Board, designed to tie the economic and military strategies more closely together and to make more effective the Board's determination of policies and programs governing the flow of materials, was announced recently by Chairman Donald M. Nelson.

The realignment does these things: It clears the decks to make controlling and expediting the flow of materials the Board's central effort. It brings the Board into closer touch with military and international production requirements, and increases the Board's activities in overall war production strategy.

It strengthens the topside policy, programming and progress-reporting organizations of WPB.

It concentrates the operating portions of WPB under one head, and puts increased emphasis on the work of industry and commodity branches.

It lightens the administrative load upon the Chairman so that he can devote his time to essential policy decisions and to the increasingly important relations of WPB with the other war agencies.

Two Vice Chairmen are provided for in the new set-up.

One of these Vice Chairmen will be William L. Batt. He will serve, in substance, as Mr. Nelson's general assistant and deputy, helping him in the determination of policies

(Concluded on Page 2, Column 3)

Copeland Corp. Control Gained By 4 Officers

SIDNEY, Ohio—Harry Thompson, Frank Gleason, Charles Curtis, and Oskar Buschmann have now acquired 62½% of the stock of the Copeland Refrigeration Corp., following the final payment of \$300,000 to Dallas E. Winslow on Wednesday last.

These four men have been the operating heads of the business since Jan. 1, 1938 and will continue in the active operation of the company.

When this pioneer refrigeration firm hit a low point financially back in 1933, Mr. Winslow entered the picture. He moved the business from Mt. Clemens to Detroit, and ran it on a modest scale for four years.

Deciding that the business had real possibilities, he brought in the Thompsons - Gleason - Curtis - Buschmann quartet to operate it, and at that time they purchased a substantial stock interest. They moved the business to Sidney, and purchased (Concluded on Page 20, Column 2)

Financial Aid for Small Firms Is Asked By Reed

WASHINGTON, D. C.—Urgent financial aid was advised for some 24,000 "small" manufacturers who might suspend operation before Oct. 1 being forced out of business by priorities orders and war needs by Philip D. Reed, chief of the War Industries Branch of the War Production Board, to the House Small Business Committee.

Mr. Reed suggested that loans be made for fixed charges and maintenance costs for the "duration" to save as many as possible of the thousands of small business firms including besides the manufacturers, "small" wholesalers and retailers.

His recommendations to the committee were as follows:

"(1) To defray during the period of enforced shutdown, the minimum fixed charges and maintenance costs of those plants which have been or will be closed down as a result of War Production Board orders, provided such plants are not needed for war or essential civilian production;

"(2) To make loans at favorable (Concluded on Page 2, Column 1)

Fernald Ill, Given Leave of Absence

WASHINGTON, D. C.—J. M. Fernald, Chief, Air Conditioning and Commercial Refrigeration Branch, WPB, has been granted an indefinite leave of absence because of illness.

Harry C. Williams, assistant chief, has been made acting chief of the Branch. However, there are no other changes in Branch personnel or assignments, it was announced last week.

Coolidge Elected President of Sherer

MARSHALL, Mich.—J. H. Coolidge has been named president and elected to the board of directors of the Sherer-Gillett Co., according to an announcement made last week by R. P. Sherer, chairman of the board. As president Mr. Coolidge succeeds the late Raymond W. Goodrow.

"Jack" Coolidge, as the trade knows him, has been connected with the commercial refrigerator industry for the past 15 years, starting with the Downing Mfg. Co. of Downing, Wis. Later he was with Bardwell-Robinson Co. of Minneapolis, and then joined Sherer-Gillett in 1936 as assistant sales manager. During the past two years he has served as vice president and sales manager.

Canniff To Direct Servel Advertising

EVANSVILLE, Ind.—R. J. Canniff, sales promotion manager of Servel, Inc., since 1939, has recently been appointed advertising manager of that company, while still retaining his former position, George S. Jones, Jr., vice president, announces. William Reynolds, of New York, has resigned as advertising manager.

In addition, it was disclosed that Servel's advertising department has been transferred from New York City to the factory here.

Prior to joining Servel, Mr. Canniff was associated in various executive capacities with the Central Hudson Gas & Electric Corp., Poughkeepsie, N. Y.; the Standard Gas Equipment Corp., Chicago; Pittsburgh Water Heater Co., Pittsburgh, Pa.; and the Ruud Mfg. Co. (Concluded on Page 2, Column 2)

You Can Help Win the War

(And Pick Up Some Ready Cash)

If you're a distributor, dealer, contractor, jobber, or serviceman, or a salesman in any of these types of organizations, you'll be interested in the announcement on page 13 of this issue of the News.

Beginning this week, the News is sponsoring a new prize contest for articles written by readers on the subject "How I Sold Refrigeration Equipment on Priority to a War Factory." Cash awards will be made to every reader whose article on this subject is published in the News, and an additional \$50 cash prize will go to the writer of the best article.

The purpose of this contest is to uncover new applications for refrigeration in war plants, and to supply more information to readers as to how to go about selling to these plants.

If you've sold or installed equipment in war factories, there's cash waiting for the story of how you went about selling this new type of market and how the equipment you sold helped speed Victory production. Best of all, in sharing with others information on how to sell refrigeration equipment that will help speed production, you will be helping to win the war.

Turn now to page 13 for further details.

Stocks of Electric Ranges In Hands of Retail Dealers Are Unfrozen

Auto Industry to Produce Parts on Percentage Basis

Distributor, Producer Stocks of Bigger Models Are Also Released

(Official WPB Release)

WASHINGTON, D. C., July 16.—Some 45,000 electric ranges, frozen since May 2, 1942, in the hands of dealers, distributors, and manufacturers, are released for sale to the public upon certification as to need in an amendment to Supplementary Limitation Order L-23-B issued by WPB.

Today's amendment releases all electric ranges in the hands of dealers as well as ranges having a factory sales value of \$80 and over in the hands of distributors and manufacturers. Ranges having a factory sales value of less than \$80 in the hands of distributors and manufacturers are not released but must be held for defense housing or war agencies.

To qualify for a new electric range, a person must certify to the dealer in writing either:

(a) That a new domestic electric range is required to replace one that is worn out, damaged beyond repair, or destroyed; or

(b) That no cooking equipment is available, that the premises are wired for the installation of a range, and that electric facilities for range operation are installed.

WPB Consumers Durable Goods Branch estimates that approximately 70,000 electric ranges are now in the hands of dealers, distributors, and manufacturers. Since production has ceased, that represents the total stock available for the duration of the war. Of that number, about 25,000 will be held for defense houses—the remaining 45,000 will be made available to the public under conditions already stated, as a result of today's unfreeze order.

Last year approximately 500,000 electric ranges were manufactured, or about 100,000 above normal production. Thus, the 45,000 ranges being released to the public represent normally a little more than a month's supply.

Supply Group to Study Inventories

WASHINGTON, D. C.—As the first step in carrying out the current program to determine a nationwide policy for possible inventory control, a Wholesale and Retail Inventory Policy committee with the War Production Board's Division of Civilian Supply has been set up. Joseph L. Weiner, deputy director, announced last week.

By holding a series of informal meetings with representative wholesalers and retailers, the committee will survey wholesale and retail enterprise in the United States to determine how inventories are placed and how various wholesale and retail establishments build up inventories.

However, at present there is no plan for inventory control, Mr. Wiener emphasized, and none will be formulated until after the committee completes the survey. The committee has the important task of determining whether such control is necessary.

The committee, which has been asked by Mr. Weiner to submit a report to him within six weeks, will be assisted by a technical staff of experts in the wholesale and retail fields. It will operate under the general supervision of Reavis Cox, chief of the services program branch of the Division of Civilian Supply.

"The policy committee, with the (Concluded on Page 2, Column 5)

EDITOR'S NOTE: In an editorial in the July 6 issue AIR CONDITIONING & REFRIGERATION NEWS advocated a plan for the manufacture of repair parts whereby producers would be permitted to make a certain percentage of their volume in some previous period, and permit the industry to control the distribution of these parts.

WPB has just issued an order of this type for the automobile parts field. The following story about this automotive industry order is published to give readers an idea of the kind of a production order that was hinted at in the July 6 editorial.

WASHINGTON, D. C.—"Functional" replacement parts for both passenger automobiles and trucks will be provided for the balance of 1942 at least through the recently issued WPB Order L-158, which permits passenger automobile parts manufacturers to build, in the third and fourth quarters of this year, up to 70% of their sales during the corresponding period of last year, provided that their overall inventory does not exceed a four-month supply.

Manufacturers of truck and bus parts are allowed to build up to 125% of their sales of these parts during the same period of last year, with the same inventory provision. An "enforced trade-in" plan on parts, to provide scrap metal, is an important feature of the order.

This provision has two main parts: 1. Consumers are required, after July 15, to turn in to distributors a used part before accepting delivery of a new part.

2. No new part shall be delivered to a consumer by a jobber, distribu-

"Truck refrigeration units" are listed as one of the "functional replacement parts" which can be manufactured under L-158. All communications regarding this order should be addressed to Automotive Branch, WPB, Washington, Ref. L-158.

tor, dealer or serviceman to replace a part that can be reconditioned by the seller.

Material to be used in these parts, it is understood, will command a priority rating of approximately what was A-1-a, but each company's al-

(Concluded on Page 2, Column 5)

Factory Branches Now Covered by L-38

WASHINGTON, D. C.—Limitation Order L-38 for Commercial Refrigeration and Air Conditioning Equipment has been amended to bring factory branches within the definition of "other authorized channels of distribution." The amendment was issued June 10.

Text of Amendment 3 is as follows:

Paragraph (b) Definitions of Section 1071.1 General Limitation Order L-38, as amended, is hereby further amended by adding thereto the following subparagraph:

(9) "Other authorized channel of distribution" means any person (including a factory branch or subsidiary of a producer) engaged in the business of selling unused refrigerating and air conditioning equipment to dealers for resale. A fac-

(Concluded on Page 20, Column 1)

Financial Program To Aid Small Firms Outlined by Reed

(Concluded from Page 1, Column 2)

interest rates to those plants which, although not completely closed down as a result of War Production Board orders, are unable to operate at a profitable level by reason of such orders or shortages of materials, and are in need of and unable to obtain financial assistance;

"(3) To make loans at favorable rates and up to the fair value of frozen inventories, to those plants which have not unreasonable inventories of fully or semi-fabricated parts that cannot be finished and assembled into completed products without additional amounts of critical raw materials, and which are in need of and unable to obtain financial assistance."

Mr. Reed told the committee, headed by Representative Patman of Texas, that in addition to 184,000 manufacturing establishments there were about 200,000 wholesale enterprises, 1,770,000 retail and 646,000 service enterprises, many of which would be forced out of operation during the war.

"I do not know and would find it difficult to estimate what percentage of these 24,000 industrial concerns have sufficient financial resources to weather a prolonged period of idleness. I do not believe that liquidation or bankruptcy would be the

Canniff to Direct Servel Advertising



R. J. CANNIFF

(Concluded from Page 1, Column 3)

He was a director on the first board of the Association of Gas Appliance and Equipment Manufacturers and now is an active representative for Servel on the American Gas Association's Refrigeration committee.

rule rather than the exception before the war is ended.

"It would be quite desirable for some public or private group to attempt a more painstaking and detailed examination of the statistics that give the problem substance."

WPB Setup Revised to Give Closer Control; Batt & Knowlson Are Promoted

(Concluded from Page 1, Column 1)

and in the direction of operations, and devoting his attention to the whole work of the War Production Board. In order to fill this post Mr. Batt is relinquishing his chairmanship of the Requirements Committee, although he will continue as a member of that committee.

The other Vice Chairman will be James S. Knowlson, formerly Director of Industry Operations. Mr. Knowlson will have responsibility for program determinations; he will serve as Mr. Nelson's Deputy on the Combined Production and Resources Board, and will be chairman of the Requirements Committee.

Just as all of the program development work is brought together under Mr. Knowlson, all of the operational work—including the industry and material branches, appropriate bureaus, and the field organization—is brought together under a Director General of Operations. This post has been given to Amory Houghton, formerly Deputy Chief of the Bureau of Industry Branches. Thus the programs and policies governing the flow of materials which are worked out under Mr. Knowlson are put into operation through the operating units controlled by Mr. Houghton.

A third important phase of the work—checking up to see that programs are properly carried out—is entrusted to a Deputy Chairman on

Program Progress. This officer will, so to speak, be WPB's inspector general. Working with the operating units of WPB, with the Supply Arms and Services to which the Chairman has delegated procurement, production and expediting responsibility, and with WPB's Planning, Statistics and other staff divisions, the Deputy Chairman will follow program progress to anticipate bottlenecks, to detect the causes of failure when failure occurs, and to help to see that necessary corrective steps are taken.

One of the most important parts of the new structure is the fact that it gives WPB (1) a closer relationship to the broad strategic picture, and (2) a closer relationship to the other Governmental agencies which have responsibility for various parts of the war program.

As to strategy: the tie-up between WPB and the Combined Production and Resources Board is made close and effective. The work done by the Combined Production and Resources Board can be woven into the operations of WPB in such a way that decisions made by the Combined Board can be translated speedily into programs and action by WPB, and also so that the potentialities of the American economy can be understood by the Combined Board and woven into its decisions.

As to the relationship with other Governmental agencies:

There are several agencies to which has been delegated by WPB responsibility for certain parts of the war production program; there are others whose functions naturally supplement the work of WPB. Closer correlation with all of these is sought by recognizing that all are component parts of the general war organization, and by regarding the chiefs of all of these agencies as the War Production General Staff. There will be close contacts with the members of this General Staff to discuss over-all problems, with special reference to the discharge of functions delegated by WPB.

Other features of the new organizational arrangement include:

Formation of a Smaller War Plants Corp., in line with legislation recently passed by Congress. This corporation, whose head will also serve as Deputy Chairman of WPB on Smaller War Plants, will report direct to the Office of the Chairman. Its directors will be announced within a few days.

Leon Henderson remains as Director of the Office of Civilian Supply, serving as chief adviser to the Chairman on the changing needs of the Civilian Economy in War Time.

Working with the Vice Chairman on Program Determination will be the Procurement Policy Division, formerly the Division of Purchases, under Holder Hudgins, and a new Construction Program Division, which will be responsible for considering and programming all plans for capital expansion, whether military or otherwise, and making sure that facilities expansion projects are in accord with the maximum over-all program.

The Labor Production Division continues under Wendell Lund, and reports directly to the Chairman. Its Labor Advisory Committee becomes the Labor Policy Committee, whose duty it will be to study the problems of labor in production and to advise the Chairman on them.

Working with the Director General of Operations will be the following units, other than the industry and commodity branches:

The Conservation Division. A new Production Engineering Division, which will help in the development and wide use of new production methods and techniques in the war program.

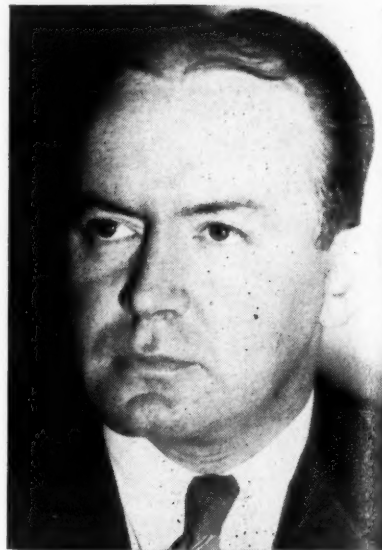
A new Facilities Utilization Division, which will be responsible for seeing to it that proper use is made of available productive facilities.

The Inventory Control Division. The Division of Industry Advisory Committees.

The Priorities Administration Division.

Reporting directly to the Chairman, as units whose services are used by all parts of the WPB, will be the Legal Division, the Office of Organizational Planning, the Office of Information, the Planning Committee, the Statistics Division and the Administrative Division.

Dunn to Manage Rex Cole, Inc.



EDWARD G. DUNN

LONG ISLAND CITY, N. Y.—Edward G. Dunn has been appointed vice president and general manager of Rex Cole, Inc., New York Distributor of General Electric Appliances, announces Rex Cole, president. Mr. Dunn will make his headquarters at the recently consolidated Administrative-Service offices of Rex Cole, Inc. at 21-01 51st Ave., Long Island City.

After joining the Accounting department of the General Electric Co. soon after his graduation from the Boston's Bentley School of Accounting and Finance in 1929, Mr. Dunn subsequently gained several years of experience as a traveling auditor for the General Electric Co.

Following this in 1935 Mr. Dunn joined Rex Cole, Inc. where for the past seven years he has served in various capacities.

Weiner Directs Study Of Need For Control Of Stock Inventories

(Concluded from Page 1, Column 5)

aid of its technical staff, will ascertain whether the larger and financially more powerful stores are stocking disproportionate shares of the merchandise on the market," Mr. Weiner explained.

"If it is found that this condition is widespread throughout the country and threatens to continue, inventory control may be the only logical answer to the problem," he said.

Composed of three members, the committee is headed by Eaton V. W. Read, head of the Wholesale and Retail Policy section. Other members are: Irwin D. Wolf of Aspinwall, Pa., vice president of Kaufmann Department Stores of Pittsburgh, who will concentrate on problems in the retail field, and John A. Donaldson of Kenilworth, Ill., vice president and treasurer of Butler Brothers of Chicago.

Auto Parts Order Sets Limit on Inventory

(Concluded from Page 1, Column 4)

lotment of material will be handled on a PRP certificate which the manufacturer must fill out and send in to the WPB with his request for material.

After Aug. 15 distributors, jobbers, dealers, and repair shops will be limited, in the eastern and central time zones, to a 60-day supply of spare parts in dollar value in stock, and to a 90-day supply in other time zones. However, distributors, jobbers, and dealers can order and accept delivery of any part which is not in stock but which may be needed for an emergency repair of a vehicle. A certificate for such emergency orders must be filed with producers, and producers must give such certificates preference in their shipping schedules.

Klopsch Elected To Board Of Copper & Brass Group

NEW YORK CITY — Otto Z. Klopsch, vice president of the Wolverine Tube Co., was elected to the Copper and Brass Research Association board of directors recently.

The Bush Bulletin



Mfg. Co.

THE BULLETIN WITHOUT THE "BULL"

BOYS... LET'S CLEAN UP! AND I MEAN CLEAN UP! START WITH THAT OLD PROSPECT FILE. THROW IT OUT. HOW DO YOU REPLACE IT? EASY! EVERY PLANT IN YOUR COMMUNITY WITH A WAR ORDER CAN BUY REFRIGERATING EQUIPMENT...AND WILL JUST AS SOON AS YOU POINT OUT THE NEED. REMEMBER THAT THESE PLANTS NEVER HAD WAR ORDERS BEFORE...THEY NEVER NEEDED REFRIGERATING EQUIPMENT BEFORE...THEY HAVE NEVER HEARD YOUR SALES STORY BEFORE. SO-O-O-O...GET OUT YOUR BROOMS.

PENGUIN PETE



BUSH MFG. CO.

★ Commercial Cooling Units ★

HARTFORD, CONN. • 610 N. OAKLEY BLVD., CHICAGO, ILL.

What Dealers Are Doing About Merchandise Shortages

Dealer Not Only Reconditions, But 'Redesigns' Older Trade-In Models

SALINA, Kan.—One way to make extremely old but mechanically serviceable refrigerators still appealing to housewives is by "remodeling" them as well as reconditioning them, according to Paul Trebble, appliance manager of Stiefel's, Frigidaire dealership here.

Like many appliance dealerships, the Stiefel store had a large stock of "junk" refrigerators on hand when curtailment came along. Most of these were from eight to 10 years old, and were simply stored in the garage while younger refrigerators were reconditioned and resold. Now, however, with the supply of trade-ins extremely limited, the store is deriving an unsuspected profit from these old boxes by changing their appearance radically at the same time their units are overhauled and given a one-year guarantee.

Among the boxes on hand were several old types with the sealed unit on the top of the box. Trebble has developed the idea of taking the sealed unit off of these boxes, and replacing them with open-type units, "salvaged" by using the parts from

several to make the few good compressors.

The new unit, instead of being mounted atop the box, is suspended on a wooden platform underneath the box, simply being connected to the coils and expansion valve from below instead of above. The open space between the refrigerator legs is then closed in with tile boards, and another sheet of the same material used to make a smooth unbroken top for the box. A dozen such boxes treated in this way, and placed on display in the store, have sold within a few hours, according to Trebble.

All refrigerators on display are kept running until sold, and sell at a considerably better price, since they are made up largely of parts from other units which bring them out of the "price ceiling" class.

All old refrigerators in stock have been completely torn down, and all refrigerating parts put into classified bins. Using these methods, Trebble has been able to make an average of three good compressors from each five on hand.

Store Adds 'Food Nook' As Lines Dwindle

LINCOLN—With many home furnishings and wearing apparel items now out of production or strictly rationed, the Miller & Paine department store here has installed a refrigerated display case on street floor and has opened a "food nook" where "ready-to-carry-home" salads, meats, casserole dishes, fish dishes, jellies, dressings, bakery products, etc., will be carried.

The promotional theme of the new food service will be, "Home-makers released from the kitchen for other activities," it was stated, and the service is designed to fit into the war tempo in which civilian defense activities are taking an increasing amount of time and energy from a growing number of housewives.

Wendel Electric Service Opens New Store

MARINETTE, Wis.—The Wendel Electric Service has opened for business in its new store here at 1357 Main St., where it has increased its service department for the repairs of electrical appliances. At Menominee, Mich., sister city to Marinette, the William Van Domelen Co. has consolidated its electrical appliance store and motor shop at 218 Ogden Ave.

Distributor Seeks Out 'Non-Competitive' Lines

PHILADELPHIA — Something which many appliance distributors looking for sidelines for their retailers fail to take into account is the fact that some of the sidelines will be as competitive as were appliances in the past, according to Pierce-Phelps Co. here, appliance wholesaler. To guard against such mistakes, Pierce-Phelps has taken on unusual lines. These include Panelite, an imitation knotty pine wallboard for home remodeling, and Garmenteer cedar chests, for clothes protection.

'Unpainted Furniture' Value Steps Up

ST. LOUIS — Ralph Straub, recently appointed housewares merchandise manager for the Stix-Baer-Fuller store, made the expansion of the unpainted furniture and paint department one of his first steps after taking up his new position.

The unpainted furniture department is now three times its former size, and has been especially attractive to Wartime workers who use paint brush and unpainted furniture to brighten up old homes and apartments converted to defense housing.

Old Refrigeration Parts Keep Candy Fresh



A refrigeration system that required no priority rating but was made with salvaged parts and second hand units, is boosting the candy business of the Carl S. Baum drug store in Omaha as customers have

learned that the gift and bar candy will always be in good condition. A small set of coils powered by a 1/4-hp. compressor keeps the temperature at 60° F. It costs less to operate than an ordinary household refrigerator.



Harnessing a million volts to see through steel...FAST!

MILLION VOLT X-RAY MACHINES in shipyards and plants are speeding America's war program!

These modern "X-ray" eyes peer through metal castings as if made of glass—uncovering defects which might mean failure of a vital part in a warship, tank or plane. And they do the job *fast*—through five-inch steel in two minutes, instead of the three and a half hours formerly required.

Thanks largely to "Freon" refrigerant, these machines can be made light and portable enough for factory use. Principal reason for their mobility is the use of "Freon" instead of oil to insulate the coils of the transformer used in developing the enormously high voltage. Million-volt X-ray machines, made by G-E, illustrate another dramatic role played by "Freon" refrigerant in the war effort and for better living.

Today "Freon" and the refrigeration industry have but one purpose: to help maintain the speed and quality of production needed to

win the war. But in the peace to come, they will again be dedicated to building a finer, more healthful world in which to live.

CONSERVE FOR VICTORY

Join the Refrigeration and Air Conditioning Industry's "Program for Victory"—take steps now to conserve vitally needed power, repair parts and refrigerants. Keep plugging away at the need for a regular check-up service. In this way you'll contribute to your country's needs and to the economical operation of customers' equipment.

WRITE TODAY for your copy of our service instructions booklet. It tells how to reduce waste and losses of "Freon" refrigerants. Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington, Delaware.

KINETIC
FREON
REG. U. S. PAT. OFF.
safe refrigerants

"Freon" is Kinetic's registered trade mark for its fluorine refrigerants

Dealers Explain How Used Box Price Ceiling Sets Figures Below Cost

OPA Has 'Substituted a Formula To Replace Real Business Experience'

Urner's
Bakersfield, Calif.
Chas. J. Reilly
Office of Price Administration
Los Angeles, Calif.

You told me your office would welcome the reactions of dealers to Price Control No. 139 covering sales of used refrigerators. I am, therefore, submitting my ideas in a separate paper enclosed. It is rather lengthy, but I tried to cover a number of the main objections.

I realize it is easier to find objections than it is to offer a solution. It is apparent that there was some need to curb prices or Mr. Henderson would not have tackled a job as difficult as that offered by entering the field of used merchandise. It occurred to me that there might be a possibility of applying the principle used in his overall general price regulations.

In the general price regulations you will note there was no effort made to have all retailers sell at the same prices. It was acknowledged and rightly, that selling prices vary in different stores even in the same communities and likewise they vary in different parts of the country.

If this is true as regards a certain brand of corn or beans, how much more is it true with regards to used refrigerators, no two of which are ever alike, and with varying costs of repairing and other overhead expenses encountered.

It seems to me that Mr. Henderson reverses himself in establishing flat specific prices applying unvaryingly to all parts of the country, with the exception of \$5 additional permitted for western states.

Now every experienced dealer has some standards he applies in pricing used refrigerators he offers for sale.

These prices are not very scientific to be sure, and while they are based on the make, size, age, condition, and appearance of the article, they also reflect the individual preferences and prejudices of the dealer as well as the general sales conditions in this particular territory.

Two equally successful dealers in the same territory would, therefore, seldom agree as to a specific value for the article, but there would not be any considerable variation in most cases. Now my idea is that if dealers in used refrigerators would file their ceiling prices on used refrigerators as soon as ready for sale, a comparative standard would soon be available. Then if some dealer filed prices out of line, his request for ceiling price could be denied and would have to be revised voluntarily or set arbitrarily by the OPA. This may be too complicated to be practicable, but I believe it would have the effect of keeping dealers in line and would permit the honest dealer to conduct his business in a profitable manner.

I want to assure you that I realize the many difficulties encountered in the fight to ward off inflation, and that many cases of individual hardship must be faced. If these can be lessened without violating the general principles in mind, then a worthy objective is attained. I will be pleased to hear from you when you have had time to look over the accompanying material.

D. E. URNER

REG. 139 HAS PUT ME OUT OF THE USED REFRIGERATOR BUSINESS

Reg. 139 has put me out of the used refrigerator business. This in

itself is very unimportant. If, however, the effect of the regulation generally is to kill the business, then it is important that some study be given to its revision. Following are some of the reasons why I have found it impracticable to operate a used refrigerator department.

I have found that in a number of cases actual costs of repairing good standard brands now in my possession are in excess of allowable retail prices. Obviously these cannot be placed in service again regardless of demand.

In other cases, where the units are in satisfactory working condition, and thus very little in actual labor costs is involved in preparing them for sale, OPA "cleaned, checked, and unconditioned" prices will not permit me to realize my inventory values of the boxes plus any reasonable operating expenses. These prices in fact are from 10% to 50% less than usual selling prices of used refrigerators in this area—prices that were generally considered fair by the public during times when new boxes were plentiful and scarcity was not a factor.

Now it is true that the OPA schedule is based on a trade-in manual widely consulted by the industry. However, I believe it was the experience of most dealers that while the book was helpful in identifying the age and size of the particular trade-in, the trade-in price could seldom be adhered to—in many cases the dealer himself would have to admit to the customer that the allowance was entirely too low. Discussion of trade-in practices is another subject, and little sympathy is to be accorded the dealer who gave excessive trade-in allowances to beat his competitors out of legitimate deals.

It must be admitted, however, that there is such a thing as fair allowances—allowances that are fair to the original owner and at the same time fair to the dealer. These fair allowances based on selling conditions in various parts of the country have had to be arrived at

EDITOR'S NOTE: Despite the fact that the OPA in a formal press release (published on page 3 of the July 13 Bulletin Issue of the NEWS) stated that "no increase is contemplated in the price level for used refrigerators" the protests against Regulation No. 139 continue to mount.

The fact that the OPA found it necessary to issue a formal statement on the subject is evidence that the volume of protests was beginning to be felt.

Disconcerting to the OPA is the fact that many dealers are refusing to sell used refrigerators, preferring to rent them. A warning was sounded that a plan whereby a "high rental for several months is a condition of a purchase" is a "clear evasion of the law" was sounded by Washington officials. There is no law, however, which prevents the rental of refrigerators.

To the dealer, the question is simply a clear cut case of figures—at the ceiling prices the dealer would take a loss in the majority of used box sales. The NEWS has selected some of the protests which reveal a thorough study of the situation, and is publishing them with the hope that they will be read by officials who should have an open mind on the subject.

by mutual agreement between customer and dealer, and naturally reflected a wide variety of more or less successful practices.

In order to place the used refrigerator business under ceiling control, the OPA has attempted to standardize a business that obviously has no accepted standards because it is made up of individual transactions each different from the other and requiring the exercise of individual judgments. In other words, OPA has attempted to supply a formula to replace business experience. That it would miss the mark in many individual cases would no doubt be admitted even by the OPA—that it should operate to destroy the business I am sure was not the intent of OPA.

CLASSIFICATIONS

While the regulations provide for three general price classifications, the average dealer would adopt the second one as the most practicable for him to follow. It must certainly be admitted that the prospective purchaser of a used refrigerator would want to have it cleaned and checked and given some assurance that the unit was operating in satisfactory manner. However, there are a number of other things that a dealer would frequently do before offering a used refrigerator for sale that is called for under the second classification, but would not qualify the refrigerator for sale under the "reconditioned" classification.

For example, take the case of the refrigerator with sealed-in unit that is working in a satisfactory manner. Obviously it would be uneconomical to send this unit to a factory service station for reconditioning and in fact some companies will not accept them unless they are inoperative. The refrigerator cabinet may need repairs, however—such as, new door gasket, repair of hardware, or perhaps the appearance of the cabinet could be greatly enhanced by repainting. Nevertheless this refrigerator would bring no greater price to the dealer than if he had not done these additional things, and the refrigerator could not be sold as "reconditioned" because the unit had not been overhauled.

The ceiling price here operates to encourage the dealer to do the very least he will have to do to get the price allowed and in fact he is practically forced to adopt such procedure, even though against his past business practice.

The "reconditioned" bracket presents an insurmountable problem to the average appliance dealer. He is not equipped to do the work required, especially the overhaul of sealed-in units and in this area he cannot purchase the job from factory or other reconditioners for the additional price allowed.

GUARANTEES

On its face it seems reasonable to expect a dealer to offer some kind of guarantee as a protection to the buyer. There is such a thing as asking for an unreasonable guarantee, however, and I believe it is decidedly unreasonable to ask a dealer to render an unqualified 90-day guarantee on a piece of used equipment, particularly when the

risk assumed is all out of proportion to the original price received. Bear in mind the dealer receives no guarantee from the original owner of the refrigerator. He takes it in at his own risk.

No honest dealer wants to be unfair to his customer—but suppose I trade in a General Electric refrigerator model SS62, for example. This refrigerator is cleaned and checked and found to be operating in satisfactory manner. It is sold at the unconditioned price of \$35 as allowed by the regulation. If the unit should become inoperative during the 90-day period, is it a fair proposition that I as the dealer should give the customer a reconditioned unit for nothing, at a net cost to me of \$43, and the customer would then have a virtually reconditioned refrigerator at the price of the unconditioned refrigerator?

Here is just one instance of the inequity of drafting general regulations for consumer-dealer relations on matters that could much better be handled as they arise.

The honest dealer and the fair minded customer will have no difficulty in arriving at a mutually fair solution. If the dealer is not trustworthy, he cannot be trusted to render fair prices for his repairs and services, regardless of any effort the government may make to freeze these prices at any certain level.

Another fact to be presented is that reconditioners of certain types of sealed-in units give only a 90-day guarantee on their work. No other sources are available. Is it reasonable to require the dealer to furnish an additional guarantee of nine months entirely at his own risk?

MISCELLANEOUS COMPLAINTS

Many legitimate complaints could be lodged against the regulation because of difficulties encountered in trying to comply with its instructions. For example, many models cannot be located either in the Regulation price list or the Blue Book. If these cannot be located, how can the dealer place the year made on the price label as required?

What year model is a Crosley FDD, Spartan L75, Mayflower 70, Stewart-Warner 711, Gibson 1HSS98, Montgomery Ward 6LE836? Is it necessary for the dealer to write these respective companies to get this information?

Then again some makes fairly well known here in the west are not listed at all; such as Gillilan, Gaffers & Sattler, O'Keefe & Merritt, and Moore. The same troubles are therefore encountered both in identifying as to year, size, etc. as well as pricing.

An obvious inequality exists in the price set up where a flat price is used for certain makes regardless of size, year model, or appearance of cabinet, as shown in Table 51. The same thing applies to Table 23 where one price in each classification is given for all sizes and models, covering a period of four years on Gibson refrigerators.

I believe the trade would support me in the claim that the base prices used for some of the makes in comparison to others are very unfair to those makes and do not reflect the true comparative values.

(Concluded on Page 5, Column 1)

Silent... Vibrationless...

Dayton
V-BELTS

FOR ALL LEADING MAKES OF HOUSEHOLD APPLIANCES

● We urge you to give full support to the government's rubber conservation program. V-Belts are Vital to Victory.

So, you will want to see that V-Belts are properly installed with pulleys in correct alignment and with proper tension.

Dayton V Belts
LIFELINES OF POWER *ITAL TO VICTORY*

THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO

DAYTON RUBBER EXPORT CORP.
38 Pearl St., New York, N. Y., U. S. A.

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Many Industrial Inequalities In Schedule Of Used Box Prices Cited by Dealer

(Concluded from Page 4, Column 5)
INFLATION VS. DEFLATION

Perusal of the "statement of considerations" issued by the OPA in connection with Reg. 139, indicates that the reason for issuance of used refrigerator prices was to prevent such prices reaching an inflationary level due to the scarcity of new merchandise. It indicates that considerable study was given both to price structures and reconditioning costs—that both reached satisfactory profit levels in February, 1942, and they were accordingly frozen at that level to prevent further inflation.

I do not know where the investigations were made, but it is evident they were not made in this area, where used refrigerator prices during 1941 were considerably higher than the current Regulation prices, and the dealer net costs of reconditioning quoted by factory service stations and independents are frequently in excess of the retail mark-up permitted to the dealer.

Storms of protests of dealers all over the country as indicated by AIR CONDITIONING & REFRIGERATION NEWS support the belief that the prices allowed are entirely too low to permit the dealer a profitable operation in used refrigerators and that the effect will be to keep them off the market. This is not a desirable condition and I am sure was not the intent of OPA.

I wish to submit this one final thought in conclusion. The OPA estimates there will be some number in excess of 100,000 used refrigerators available for sale during 1942. In its desire to prevent inflationary prices for these refrigerators, it has established a price level that affects the values of the nineteen millions of users of mechanical refrigerators, virtually wiping out hundreds of millions of dollars invested in these refrigerators. Consider just two or three illustrations in support of this statement.

A friend of mine left Bakersfield several months ago and placed his furniture in storage. He obtained work in a defense plant in Southern California and lives in a small apartment where the electric refrigerator is furnished. He recently wrote me asking me to sell his refrigerator for him. The refrigerator is an unlisted western make,

but is equipped with a fine twin compressor and is in excellent condition. It would be worth at resale approximately \$75, judged by any fair comparative standards. If information supplied by the OPA in Los Angeles is correct regarding a similar product on my floor, the "checked, cleaned, and unconditioned" price would be less than \$30. I was ashamed to make him an offer and had to decline his request.

Just the other day a woman came to my store whose husband had found work in a defense plant near San Francisco. She was closing her home and wished to dispose of a large double door Frigidaire, a beautiful 15-cu. ft. model purchased in 1936 at a cost of \$575. Believe me when I say that this fine refrigerator would easily sell for \$225 (regardless of scarcity), but OPA says \$139.50 is ceiling selling price, and our patriotic citizen can hardly see why the government should wish to destroy the value of her investment.

I have numerous other instances in mind, the two above will suffice to show the point. What is the value of the refrigerator you may have in your home? It has a fine electric motor, a sturdy compressor, a delicate cold control, a condenser, a large, well insulated cabinet, an evaporator, shelves, ice trays, and other accessories. Day and night it performs for you a vital service by preserving food for your family.

What is its value? Well, if it falls in some classifications I can name you, it is worth just \$2, or the price of a carton of cigarettes; in some other classifications it might have a base value of the price of a midget radio or a pair of shoes. It would have to be a very late model indeed to have a value the equivalent of a washing machine.

In fact, on the average a six year old electric washer has a higher resale value than an electric refrigerator in good running condition as set by the OPA schedule. Here is truly a case of extreme deflation, and it is not brought about by some new invention—it is brought out by government decree. The economic loss is not largely the loss of business, it is loss to the great mass of citizens who have invested their savings in a useful and important American product.

quires as a part of its 21 points covering a reconditioned refrigerator.

WHY PRICES ARE WRONG

Putting any cost at all on the balance of the 21 points requires no skillful computation to determine that reconditioned refrigerators with sealed units must inevitably be sold under the price ceiling order at a price less than the dealers' actual cost, disregarding anything for overhead.

Such a situation can hardly encourage dealers to place on the market used refrigerators which could well serve their purpose for the duration of the war in providing the public with dependable refrigeration without the outlay of much needed material.

The price information I have quoted above is not the result of wishful thinking or figures grabbed out of the air, but rather reflects the experience of stabilized refrigeration operators in this territory over a number of years.

I have one additional bit of information which apparently did not come to the attention of your office when these price ceilings were computed. The General Electric Co. in Los Angeles charges their dealers \$38.18 as a flat rate charge on a DR-2 model Monitor Top unit, for which our charge is \$31.00. The Westinghouse Electric & Mfg. Co. in Los Angeles charges \$35.75 as a flat rate repair charge on all units under 9 cubic foot capacity. Sears Roebuck & Co. in Los Angeles has an over-the-dock delivery cost on Coldspot unit repair of \$30.50, on

which we do not have a flat rate repair charge.

I am sure that the above charges would refute any possible claim that our own repair charges, based on very extensive experience, could be in any way out of line.

Attached to this letter are several from dealers for whom we have done sealed unit repair work. They voice the same thoughts which have been given to us verbally by literally scores of dealers with whom we have discussed price ceiling Order No. 139. Our company contacts 1,250 to 1,500 dealers and service men on the Pacific Coast, and I do not know of a single instance in which anyone has considered these ceiling prices high enough for him to operate under.

No doubt this same experience is being reported all over the United States, and if it is it would seem to me that Order No. 139 should be revised with the advice of people who know something about the refrigerator repair business, and placed at a figure which would allow the dealer to do an honest job of reconditioning and still make a sufficient margin of profit on which to operate his business.

40% ON RECONDITIONING

We feel that the dealer is justified in realizing a gross profit of 40% on his actual box and reconditioning cost, which would then result in retail prices on used refrigerators ranging from \$80 to \$110 or \$115, depending on type and model.

We have contacted a number of consumers in this area, as have our dealer customers, and we find that the consumer is 100% agreeable to

paying prices such as I have just indicated.

If the public is willing to pay these prices and feel that they are getting value for their purchase price; if the dealer says that he needs that much in order to operate; and if the wholesale repairer also says that sealed units cannot be repaired at prices indicated in Order No. 139; then it would appear that the Order has missed its mark some way or other and should be speedily revised so that the hundreds of thousands of used refrigerators throughout the United States can be placed in service and provide refrigeration until new mechanical refrigerators can again be manufactured.

L. P. ROTH.

May Refrigeration Tax Nosedives

WASHINGTON, D. C.—Mechanical refrigerator and air conditioning equipment excise tax collections for May nosedived to \$1,014,684.27 as compared with the May, 1941 figure of \$2,379,834.50, the Bureau of Internal Revenue statistics released this week reveal.

On the other hand, collections on radio sets, parts, and phonographs swung upward with a total of \$1,941,756.58 in May as against \$581,193.32 during the same month last year.

Electric, gas, and oil appliances accounted for an additional \$2,251,111.96; washing machines, \$10,535.45; and phonograph records, \$229,413.70.

Records From Figures Show Reconditioning Costs More Than Eat Up Dealer's Margin

COPY

Refrigeration Service, Inc.
Los Angeles, Calif.

July 6, 1942

Office of Price Administration
Washington, D. C.

Gentlemen:
This letter is a protest regarding Used Refrigerator Price Ceiling Order No. 139, recently issued by your office.

An examination of the maximum price schedule would indicate that the difference between the reconditioned and the as-is price is approximately \$37.50, to which may be added in this area \$5 for transportation, making a total of \$42.50 which the dealer can get for reconditioning the box, the unit, deliver it to the customer's home, and furnish free service for the period of one year.

Our company has been in the service business since 1928, and has acted as a jobber of refrigeration supplies almost since the company was organized. We discontinued our service business in 1937, but have always operated a wholesale service shop for dealers and service companies in the Pacific Coast area. For the last five or six years we have done considerable sealed unit repair, because the average dealer is not sufficiently equipped to do a satisfactory job on this type of service.

For about the last eight months our flat rate repair charged on the three most popular sealed units, from the standpoint of service in this territory, are Majestic, \$26.50; General Electric Monitor Top, \$31; and Westinghouse, \$31. All of these prices are f.o.b. our warehouse, and although we guarantee these units for one year from date of invoice,

our guarantee is also f.o.b. our warehouse.

We have had a considerable amount of experience on sealed unit repair, extending over a good many years, and I can assure your office that our gross profit on this work after free service, figures somewhere between 20 and 26%, from which we must deduct our overhead. All of the above prices are, of course, wholesale, and if the dealer is to properly protect himself as regards his service obligations, it has been our recommendation that he charge his customer a price such that he will realize a gross profit of 33% plus his initial transportation and installation charges.

SERVICE CALLS PROBABLE

I believe it will be readily recognized that no repaired unit could possibly hope to have as good a service experience as the same unit would have under its initial free service period when it was new. Experience by various sealed unit manufacturers shows that new sealed units have a service call experience during the first year running from one to two and one-half calls, depending upon how good the factory production was that particular year.

Repaired unit experience based on this should then run somewhere between one and one-half and three and one-half calls per year. These calls would cost the dealer an average of at least \$1.50 apiece in this territory, including time and mileage, which would represent a service cost up to a maximum of nearly \$5 for free service alone. Now to these costs must be added all of the other costs which Order No. 139 re-



Hotpoint Announces a Wartime Service Program for All Hotpoint Appliances

HOTPOINT'S new Wartime Service Program is designed to accomplish two things: 1. To insure your customers that appliances will be kept in operation for the duration, 2. To cooperate with the nation's war effort by conserving critical materials.

During its nearly forty years of history, Hotpoint has been outstanding in the industry for prompt, efficient and complete service. During World War I the millions of Hotpoint appliances then in service were kept operating. And we will continue that policy during the present emergency.

Adequate stocks of functional parts, such as range units, switches, etc., will be maintained by Hotpoint distributors in approximately 75 warehouses from Coast to Coast. A staff of field service engineers is being maintained

in every sales district to train and assist distributors and retailers in their service problems. Parts and installation service will be readily available when required, in every community.

To assist the government in the conservation of critical materials, Hotpoint's program provides for the return of all parts containing such materials, to be remanufactured or salvaged for the government stock pile.

Ask your Hotpoint distributor for further information about this Wartime Service Program. Edison General Electric Appliance Co., Inc., 5632 W. Taylor St., Chicago.

Hotpoint ELECTRIC APPLIANCES



Nelson Calls For Major Effort Now In Collection of All Vital Scrap

'General Public' Drives Supplemented By Special Industrial Campaigns

WASHINGTON, D. C.—A new and greatly intensified nation-wide salvage program, designed to reach into every home and industrial plant and increase the flow of all vital scrap materials to the country's war plants has been announced by Donald M. Nelson, chairman of the War Production Board, and Lessing J. Rosenwald, chief of the Bureau of Industrial Conservation.

The overall campaign was begun formally on Monday, July 13, immediately after the completion of the current scrap rubber campaign which has been extended to July 10.

During the period up to July 10, all local salvage committees were asked by the Bureau of Industrial Conservation to concentrate on the scrap rubber drive.

But as soon as this special activity is over, the general salvage campaign will swing into high gear and will be broadened to include the collection of all scrap materials needed for war production.

"The immensity of the task we face," said Mr. Nelson, "makes it absolutely necessary to step up the tempo of our national salvage program. Our war production is limited only by the supply of raw materials, and scrap is an important part of the raw materials supply. This makes it clear that the only way we can meet the requirements

of war production is to collect every last bit of scrap from every farm and home, and from every commercial enterprise and industry in the country."

Beginning this month, the 12,000 state and local salvage committees already in existence will have new forces at work to help them, provided by private industry working in cooperation with the Bureau of Industrial Conservation.

One of these forces is a national advertising program, sponsored by private industry and aimed at telling the public the facts about what we need, why we need it, and what each person can do to help.

Another new force is the joint assistance of the farm implement industry, which has been offered for the movement of farm scrap in a "National Scrap Harvest."

Through these various arrangements salvage committees will be able to step up their all-out continuing effort.

"No one of us can afford to relax," said Mr. Rosenwald. "We must all redouble our efforts for the long pull, realizing that the salvage program is not a one-week or a one-month campaign, any more than this is a one-week or a one-month war."

While the Bureau of Industrial

Conservation considers the new campaign as an integrated whole, it has the following clearly defined parts:

1. An intensified campaign to collect metals, especially iron and steel, and rubber and other waste materials which will flow through regular channels of trade.

2. A waste fats campaign, in which housewives will be urged to sell their waste kitchen fats, such as bacon drippings, to meat dealers who will send them back through the normal channels of trade. Waste fats are needed to stimulate production of glycerine, which in turn is needed for war and industrial explosives.

3. A tin can collection campaign which is to be carried out only in selected localities, and then only when local announcements are made.

In support of the overall effort, which is known as the National Salvage Program, the iron and steel industry has already raised approximately \$1,500,000 to pay for national advertising which will be run in daily and weekly newspapers, general and farm magazines, and trade journals, and also for radio time. It is expected that this fund may be increased. The advertisements sponsored by the industry will be designed to stimulate all scrap collection, including metals other than iron and steel, and also rubber and other materials.

"One of the things we have learned," Mr. Rosenwald said, "is that no single scrap drive in a community gets all the scrap there is. Not only are repeat drives necessary but experience shows that a

second and third drive bring surprising results. Also, the value of a large number of salvage depots in speeding collections has been demonstrated during the whirlwind scrap rubber campaign. The establishment by local salvage committees of "Official Salvage Depots" where public donations can be received will be urged wherever possible."

Officials of the Bureau made it clear that all organizations which have taken a part in the program to date would continue to be used: The volunteer workers of local defense councils, the various charities who have collected waste materials, and the youth organizations which have already done an outstanding service to the Nation in the collection of scrap and waste materials. For example, the Boy Scouts have already announced a national "Treasure Hunt" for scrap which aims to "build a bridge between the homes of this country and the yards where materials are sorted, graded, processed, packed, and shipped."

N. Y. Dairy Industry Lays Plans For Own Salvage Program

NEW YORK CITY.—In response to an appeal of the War Production Board, the dairy industry of metropolitan New York organized a committee July 9 for the collection of all scrap materials useful to the war effort.

Emphasizing the urgent need for scrap metals to spur war production, R. Merrill Decker, regional director of the WPB's industrial salvage committee for Greater New York, outlined the objectives of the drive. He listed seven points in the program, as follows:

1. The wrecking of abandoned and obsolete machinery and equipment.
 2. Utilization of all critical materials to the best advantage.
 3. Minimization of waste and spoilage.
 4. Re-use, whatever possible, of blanks, cut downs, short ends, clippings, etc.
 5. Selective handling and segregation of scrap at the source.
 6. Avoidance of contamination of scrap.
 7. Speeding the return of scrap and waste materials through existing channels to mills and refineries.
- "Scrap that is recognized as such is only a small part of the actual scrap in the average plant, even if you add it to the recognized obsolete equipment that might also be broken up and returned to the furnaces," said a WPB official. "Actually, all of the materials in a plant, fabricated or not, are scrap if they are not providing a useful service in an efficient manner."

Brass Mills Abandon Use of PD-175 Form

WASHINGTON, D. C.—Form PD-175 Revised has been abandoned by customers of brass and wire mills and foundries, who instead will report their classification symbol on their purchase orders in the future, it was announced in a letter issued by the Copper Branch of the War Production Board to producers July 1.

This form was designed to permit customers of mills and foundries to report end-use classification symbols to their suppliers, so that the suppliers could use that information in securing allocation of new metal.

However, now that Priorities Regulation No. 10 requires similar information on all orders for copper or brass, the Copper Branch deemed the use of Form PD-175 unnecessary.

Penn Branch Locates In Watertown, Mass.

BOSTON.—The Boston branch of Penn Electric Switch Co. is now located at 50 Hunt St., Watertown, Mass., A. W. Barr, branch manager, announces.

Mills Novelty Co's Service Policy Calls For Parts Exchange

CHICAGO.—Mills Novelty Co. has announced a newly organized service policy on parts with the stipulation that before an order is filled for a part, the old part must first be returned.

According to this new policy the Mills Novelty Co. makes four requests of its condensing unit dealer and service organizations:

"(1) Give every piece of equipment in stock or out in operation extra care in handling.

"(2) If there is equipment which is in the warranty, and which requires part replacement, send the old part in together with complete information as to model and serial number of unit, reasons for replacement. If possible, we will ship out a new or reworked part at once, having the old one on hand to repair and use on other orders. If we do not have the part in stock, then we will make every effort to repair it and ship it back the same day it is received, no charge for repairs.

"(3) If equipment is out of the warranty, make every effort to have parts causing difficulty, repaired locally. If this is not possible, then ship parts into the factory so that there will be no question as to manner of handling.

"(4) Be sure to furnish Emergency Service Priority number with all orders for parts, or instructions for repair of parts."

5% Maximum Rate On Loans To Small Plants To 'Convert'

NEW YORK CITY.—The maximum rate of interest to be charged small manufacturers who can convert their plants to the manufacture of vital materials for the armed services and the Maritime Commission has been established at 5%, it was revealed in banking circles here.

Through the recently announced Regulation V of the Federal Reserve Board, whereby loans made to these manufacturers by commercial banks may be guaranteed in whole or in part by the central Federal Reserve banks, the annual interest rate will not exceed 4% in many cases. As part of a vast "bits-and-pieces" program, these small manufacturers are assured adequate financial accommodation.

Local private banks announced the rates charged by the Federal Reserve Bank of New York in guaranteeing the Regulation V loans made by them. Where the Reserve bank guarantees 90 to 100% of a war production loan made by a commercial bank, it will charge the bank 30 to 40% of the interest charged the borrower by the commercial bank.

Where the Reserve bank is called on to guarantee 75 to 90% of such a loan, it will charge the commercial bank 20 to 30% of the interest rate the latter charges the borrower and 10 to 20% where the guarantee is less than 75% of the loan, or a minimum charge of 1/2 of 1% total interest rate.

Though the borrower is not immediately concerned with the rate of guarantee as between the Reserve bank and the lending bank, the latter, with a guarantee at its back, can afford to cut its ordinary lending rates. In addition, the strong competition between commercial banks for new business of this type also tends to hold down interest rates, it was pointed out.

If satisfactory accommodations cannot be obtained by a prospective borrower from commercial banks, both the Reserve bank and the R.F.C. are empowered to lend directly or to participate with a commercial bank in making a loan. In all instances, it is explained, lending under Regulation V is to be done with a minimum of dislocation to interest rate schedules existing in various parts of the country.

**"SOUND WORKMANSHIP
IN REFRIGERATOR REPAIR
AND MAINTENANCE
AUTOMATICALLY CALLS
FOR . .**

KEROTEST
Servi-Sured
VALVES and FITTINGS"

KEROTEST

YOUR Kerotest Jobber knows the needs of the refrigeration industry well and is familiar with the intricacies and limitations of W.P.B.'s order P-100 and amendments and order P-126.

For your valve and fitting requirements and for industry-wise information . . .

SEE YOUR KEROTEST JOBBER

Consult Him Regularly!

KEROTEST MANUFACTURING COMPANY, PITTSBURGH, PA.

Air Cooled 'Link Trainer' Room Permits Pilots To Train In Normal Conditions

False Impressions of Ability Caused by Overheated Room

KANSAS CITY, Mo.—Fledgling pilots and future army supply plane pilots undergoing basic training at the offices of Transcontinental Western Airlines are finding the "blind ground flying" phase of their training more comfortable since a three-ton Carrier package air conditioning unit was installed in the Link Trainer room of the training building.

"Link Trainers" are those small hooded airplane fuselages in which pilots go through simulated flight on the ground—each of the miniature planes being mounted on flexible turntables, and provided with a complete instrument board and hood under which the pilot is enclosed while following flight instructions recorded on a large indicator board

on the wall of the room in which they are located. TWA has two of the trainers located in one room of its school building, in use almost 24 hours a day.

Formerly, during the summer months, novice pilots perspired and suffered in the close atmosphere under the Link Trainer hoods, and were unable to "fly" with proper efficiency. Nothing could be done to rectify summer heat conditions, however, until Temperature Engineering Corp., Carrier dealership headed by R. E. Meeker, installed a three-ton 50-M Carrier package unit in the Goebel Hangar trainer room. Now, with temperature reduced to a comfortable 78° F. the Link Trainers are doing their job more effectively and with greater speed.

Combined Direct Expansion and Silica Gel System Used For Hospital Humidity Control

HAYS, Kan.—Absolute control of temperature and humidity for patients suffering from respiratory ailments is insured in a new wing of the Hays Protestant Hospital here by means of a Carrier Weathermaster conduit type cooling system. Equipment was installed to take the place of well-water cooling which had been found inadequate despite prevalent low ground-water temperatures in this section of the state. Approximately 1500 square feet of space in the new wing, where patients suffering from hay fever, silicosis and other respiratory troubles are quartered, has been conditioned.

The refrigeration plant is located in the basement, and consists of a 7-K-450 compressor of 7½ tons ca-

capacity, a 10T3 shell-and-tube condenser cooled by the well water mentioned above efficiently, and a 5BC-14 silica gel dehydrator. The dehydrator, maintaining various degrees of humidity according to the needs of patients, has made it possible to cut down the recovery period for special cases, and to relieve congestion of chronic hay fever sufferers.

Weathermaster units are so located to diffuse cooled and dehydrated air to individual zones, and can be operated independently if desired. Many days of convalescence have thus been eliminated in respiratory treatment, according to the hospital management, by using 40, 50, and 60% relative humidity in individual cases at an 80° F. temperature.

'Defer Conventions For Duration' Request of Transportation Chief

WASHINGTON, D. C.—Deferment for the duration of all meeting, conventions, and group tours which are not closely related to furtherance of the war effort, has been called for by Joseph B. Eastman, Director of Defense Transportation.

Attendance at meetings which are closely related to the war program should be skeletonized, Mr. Eastman said.

Pointing to the steady rise in the volume of passenger traffic on railroad and bus lines, Mr. Eastman appealed to the American people voluntarily to impose certain restrictions on their travel.

"Do not travel, aside from vacations, for mere pleasure or when travel can readily be avoided," Mr. Eastman said.

"If the American people will voluntarily impose certain restrictions upon their travel such as have been indicated, there is good reason to hope that no drastic control over travel will be necessary."

Harry Johnson Dies, Was Active In Fountain Field

CHICAGO—Harry N. Johnson, branch manager of the Bastian-Blessing Co. here, died recently following a two-weeks' illness that ended a life devoted to soda fountain sales work.

For the past nine years Mr. Johnson served as manager of the Chicago branch of the Bastian-Blessing Co., having become associated with that company when it absorbed the Knight Soda Fountain Co., where he was assistant secretary and general sales manager for several years.

His wife, daughter, and son survive him.

J. C. Nash Takes WPB Post

PROVIDENCE, R. I.—John C. Nash, former manager of the air conditioning department of E. Pulver Cook, Inc., has been named manager of the local office of the WPB.

'Cut Down on the Forms' Is Order From Nelson

WASHINGTON, D. C.—A close check on the issuance of new WPB forms requesting information from American industry will be provided by a new committee announced recently by Donald M. Nelson.

The committee will also review all previously issued WPB forms and will recommend abolition or consolidation of forms where possible.

Under the chairmanship of Joseph I. Lubin, the committee will have full authority to refuse approval of new forms or to discontinue the use of existing forms.

Whenever a form is found to be unnecessary, its use will be stopped immediately. However, all forms now in use will continue in effect until Oct. 1 unless specific notice is given to the contrary.

Dairy Cooling Units Used In Industrial Cooling

YORK, Pa.—Dairy and milk-handling equipment is playing an increasingly important part in the war effort, according to the York Ice Machinery Corp. For example, heat exchanger plates, ordinarily used in the cooling of milk, are now being widely applied to the cooling of alcohol as it comes from the stills and in the cooling of many other liquid chemicals now being produced.

'Vestibule' Built Ahead of Storage Doors Cuts Army Camp's Refrigeration Cost

CAMP CROWDER, Mo.—A "vestibule arrangement" whereby Army mess cooks using new storage coolers installed by Temperature Engineering Co. at Camp Crowder walk into a small anteroom before entering the cooler is cutting refrigeration costs substantially.

The three new storage boxes are part of the new hospital mess center at this largest Missouri camp. Of three different sizes, they are used for meats, produce and dairy products independently, and are cork insulated throughout.

Individual compressors provide refrigeration to diffusers hung in the center of each storage room; the

units suspended in a small hallway along the rear of the cooler rooms, with vibration dampeners installed on suction and water lines.

Feature of the installation is a narrow hallway or vestibule room along the front of the storage cooler installation, into which all three open. To get into the coolers the Army mess employees must first enter the vestibule through a single door which closes after them, then open the doors to whatever cooler is involved. There is no refrigeration loss as a result even when storage room doors are left open for long periods, and a considerable saving in power cost has been effected.

Dealer Sells Milk Cooling Units To 20 Farms In Special Campaign

BELLEFONTE, Pa.—When the DeHaas Electric Co., Westinghouse dealer of this city sold 20 farm milk coolers at one crack to nearby farmers in this area, it was proclaimed as a great sales feat—but J. B. DeHaas, who operates the store, was disappointed.

He had his heart set on selling a carload of them.

Probably the only reason that he didn't sell an entire carload was that there weren't enough of his prospects who had electric current on their farms.

"There was quite a bit of pro-

motional work done among the farmers in the sales of these coolers," Mr. DeHaas relates. "We attended several of the Dairymen's League meetings and then, of course, we had to contact each farmer individually several times."

"Whenever possible, we had representatives from Westinghouse at some of these meetings."

One of the main reasons Mr. DeHaas wanted to make this sale "en masse" was for the promotional value it would give him. And it did create a stir that is still paying off.

There Is No Substitute For Experience

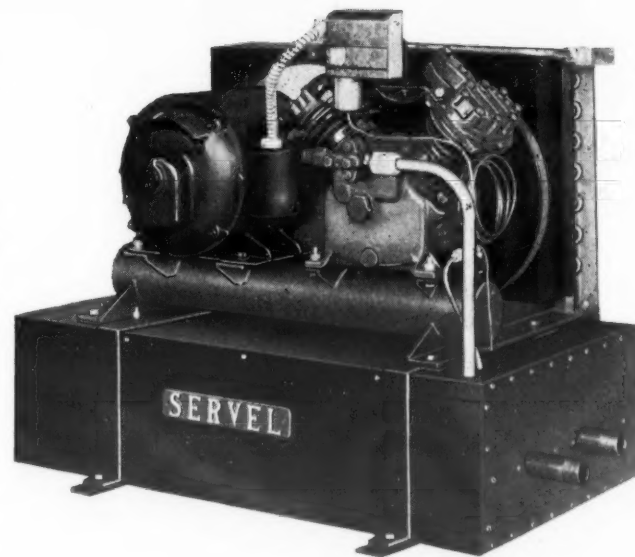
FLUID COOLERS FOR WAR INDUSTRIES

SERVEL scores again—with a new refrigerating service for war industries!

In answer to a widespread demand for compact, efficient units for cooling oil, brine, water, and other liquids in industrial processing, Servel has developed unit-type fluid coolers that "fill the bill" in every respect.

These new units consist of highly efficient shell-and-tube evaporators (or "brine coolers")—effectively insulated—and attached to standard Servel condensing units.

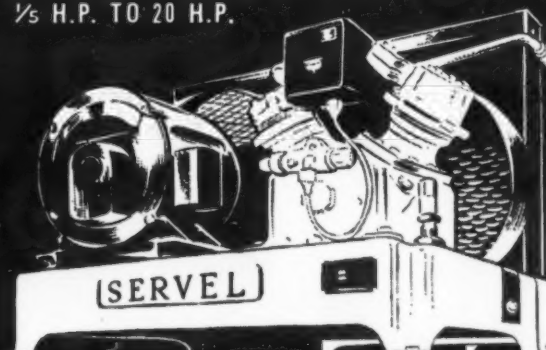
This advanced type of equipment has met with pronounced success as a coolant cooler for precision grinders—for cooling hydraulic oil—and similar applications. The Model SE-108, illustrated above, is equipped with a ¾ HP air-cooled condensing unit, and delivers 7,000 BTU per hour under normal oil cooling conditions.



Larger and smaller units are available for a wide variety of uses.

If you are interested in industrial fluid cooling, send the details of your requirements to our Application Engineering Department for recommendations. Send your inquiries to Servel, Inc., Electric Refrigeration Division, Evansville, Ind.

OVER 80 STANDARD MODELS—
AIR-COOLED AND WATER-COOLED
½ H.P. TO 20 H.P.



SERVEL
COMMERCIAL REFRIGERATION
and
AIR CONDITIONING

Relaxed Instalment Regulations Aim of Retail Credit Group

NEW YORK CITY—The newly organized Retail Credit Institute of America, 45 E. 17th St. here, filed incorporation papers Monday (June 22) in Albany, N. Y. Cecil B. Kaufmann, of Kay Jewelers, Washington, D. C. and chairman of the Institute's temporary organizing committee, announced.

Membership in the Institute embraces merchants in all fields of instalment selling. Regional organization in this national group is now under way with the country being divided into 12 regional districts, each with its regional and sub-regional chairman. In this way, membership forums can be held to discuss problems arising from instalment selling, while the collection of factual data will be facilitated, it is believed.

Through four agencies—research and statistical, public relations, laws and governmental orders, and taxation—the Institute plans to gather factual material on instalment selling which will enable it to present the government with the members' views and recommendations for the amendment of existing instalment regulations and orders with a view to the formulation of new regulations and orders.

The Institute, Mr. Kaufmann pointed out, will also attempt to prevent undue restrictions on instalment selling during the emergency and to remove all restrictive emergency regulations and orders in the postwar period.

Cashin Leaves Brunner To Be Naval Officer

UTICA, N. Y.—William M. Cashin, New England representative of the Brunner Mfg. Co. here, left recently to serve in the U. S. Navy as lieutenant commander, the company announced.

Lieut. Comdr. Cashin, who had been retired from the Navy as a reserve officer, has been granted a leave of absence by Brunner for the duration.

Navy's Undersea Fighters Get Complete Equipment For Food and Beverage Cooling

Lack of Cold Drinking Water Was Once Chief Complaint of Men Who Man Submarines

PHILADELPHIA—United States sailors on submarines whose perilous job is the ferreting out and sinking of enemy transports will be at least more comfortable on extended trips since the Judson C. Burns Co., commercial refrigerator dealers here, installed a compact food refrigerating, ice manufacturing, and water cooling system on the 12 new hour-type American submarines.

With space being at a high premium on the long range under sea boats, all equipment was built as compactly as possible. Thus, in 15 square feet of space, are located a 10-shelf food storage box, with 15 cu. ft. of capacity, and 8-pound ice

maker, and a 30-gallon water cooler. Compactly installed amidship, these units can be reached directly from the tower for stocking perishable foods, and are powered by a CM-365 D 1/2-hp. GE compressor and condensing unit.

The large water cooler was specified, according to the Navy, because a chief complaint of men who spend three or four months at sea on submarine duty has been the lack of cold drinking water.

Fruits, vegetables, and other scurvy-preventing foods can be stored in larger quantities with the sacrifice of only a few square inches of space.

Claims to Patents Owned by Foreign Companies Must Be Reported Soon

WASHINGTON, D. C.—An order announced June 20 by Leo T. Crowley, Alien Property Custodian, requires all persons claiming any interest in patents or patent applications now or formerly owned by nationals of designated foreign countries to report their interest, including any license agreement or claims of ownership, on Form APC-2 by Aug. 15, 1942.

The purposes of the order, Mr. Crowley stated, are to locate and describe enemy-owned patents and interests in patents, to protect the rights of American citizens in foreign owned patents and in patents which were once foreign owned, and to obtain information which will aid in administration of patents which are seized by the Alien Property Custodian.

Specifically, the order requests reports from any person claiming

any right, title, or interest, including any claims of ownership in whole or in part, any license or any agreement, whether written or unwritten, and whether or not recorded in the United States Patent Office, in or to any patents or patent applications in the following categories:

1. Unexpired United States letters patent for inventions and designs:

(a) if granted to a designated foreign national; or

(b) if a designated foreign national has or, at any time since Jan. 1, 1939, has had, any interest in such patent; or

(c) if the inventor or any of them is a designated foreign national, and the patent issued after Jan. 1, 1939.

2. Any application for United States letters patent for inventions and designs now pending in United States Patent Office, or which has been pending at any time since

Jan. 1, 1939:

(a) if the inventor, or any of them, is a designated foreign national; or,

(b) if a designated foreign national has or had at any time an interest in such application.

For the purpose of the order a "designated foreign national" is a resident of any country other than the American Republics, the British Commonwealth of Nations, and the Union of Soviet Socialist Republics, and includes any person on the blocked list on June 1, 1942.

Copies of Form APC-2 and instructions for reporting may be obtained on and after June 29 through offices of the Alien Property Custodian in Washington and Chicago. Completed and sworn reports are to be returned to the Alien Property Custodian, Washington, D. C.

Under the order any person who owns an unexpired patent which he acquired after issue from a designated foreign national is required to report that fact and to submit supporting documents. A similar report is required from any person who has a license under any patent owned by a designated foreign national. Residents of the United States who hold licenses under patents now claimed to be owned by other U. S. residents need not report if they ascertain that the licensor has reported.

Further provisions of the order required the filing of all agreements to which any resident of any foreign country, not only designated countries, is a party and which has been entered into by the reporter with respect to the patent reported, as well as a list of all U. S. residents whom the reporter, in turn, has licensed to operate under the patent or patent application reported.

A second order requires the reporting of change of address or citizenship by any person to whom a patent as yet unexpired was issued when the person was a resident of a designated foreign country. This information is required in order that patent rights belonging to former residents of enemy countries who now are residents of this or an allied country will not be seized inadvertently by the Custodian.

Reports From War Plants Verify Refrigeration As 'Speed Up' Tool

Honing Time Cut One-Fourth In Gun Plant; Cooling Lengthens Key Steel Worker's Day

CANTON, Ohio—Reports from experiences in the field demonstrate clearly that refrigeration is the new tool in industrial War production that both "speeds up" and upholds "production accuracy," declares F. M. Bennett of Refrigeration Economics Co. here.

Says Mr. Bennett, who has had first-hand contact with many of these jobs in his capacity as engineer and manufacturer:

"The master mechanic of one gun arsenal making 40 mm. anti-aircraft guns told us recently that with refrigeration the honing time on a gun barrel is 45 to 60 minutes, as contrasted with 210 minutes if the operation is done without refrigeration.

"In another plant making machine tools the production superintendent pointed out one application, a grinding operation, and stated that with oil filtration and cooling they could produce 12 pieces an hour. Without the cooling with a new grinding wheel they could produce the same amount for the first hour, but in about two hours their production would be cut to three an hour.

"Some operations require that the oil be maintained at a fixed temperature of 70° whereas other operating requirements may require that the oil be maintained at room temperature, whatever it is.

"The kind of oil that is handled in such jobs varies. Some applications require high viscosity oil which of course increases the pumping load and thus the refrigerating load, whereas other applications may use a low viscosity coolant such as kerosene-lard oil mix which is more easily pumped and requires less refrigeration.

"There are some 'comfort' applications of air conditioning in steel mills that are on the 'A-1' priority list. There are some extremely hot—close to unbearable—places in steel mills.

"Last spring, on a cool and comfortable day, I rode in a crane cab that served Bessemer furnaces and

noted an ambient temperature of 185° F. The master mechanic remarked that he would like to get me up there on a really bad day.

"During hot weather the conditions became so bad in this mill that the management was forced to employ three crane operators to work in 20 minute shifts. Since the cabs have been cooled one operator works through eight hours.

"The application of course necessitated a unit mounted on the crane cab, and to get running water to such a spot was virtually impossible. Likewise with an ambient temperature of 200° air cooled units are not practical.

"Consequently we had to develop a unit that included an evaporative condenser which is supplied with water from a storage tank carried on the crane. The water consumption is so small that it is perfectly practical to carry an eight-hour supply.

"Air going to this condenser is so polluted with graphite and steel dust that it must be thoroughly filtered, otherwise the condenser spray nozzles would soon clog up. Of course the air supply to the operators cab must also be thoroughly filtered.

"In some steel production processes they charge sulphur directly into the Bessemer converters and when this is done the crane operator works in an atmosphere resembling that of a closed basement with a bad SO₂ leak. Thus, a deodorizer is necessary in this application to take care of the sulphur."

Cutler-Hammer's Profit \$406,674 First Quarter

MILWAUKEE — Cutler-Hammer, Inc. here reports net profit for the first quarter of 1942 of \$406,674, equal to 61 cents a share on 659,998 common shares as compared with \$427,101 or 65 cents a share for the first three months last year. The 1942 figure was reached after deducting a reserve of \$150,000 for inventory and post-war adjustments.

New Target for Industry:
More Dollars Per Man Per Month in the
PAY-ROLL WAR SAVINGS PLAN



TO WIN THIS WAR, more and more billions are needed and needed fast—AT LEAST A BILLION DOLLARS A MONTH IN WAR BOND SALES ALONE!

This means a *minimum* of 10 percent of the gross pay roll invested in War Bonds in every plant, office, firm, and factory in the land.

Best and quickest way to raise this money—and at the same time to "brake" inflation—is by stepping up the Pay-Roll War Savings Plan, having every company offer every worker the chance to buy MORE BONDS.

Truly, in this War of Survival, **VICTORY BEGINS AT THE PAY WINDOW.**

If your firm has already installed the

Pay-Roll War Savings Plan, *now is the time—*

1. To secure wider employee participation.
2. To encourage employees to increase the amount of their allotments for Bonds, to an average of at least 10 percent of earnings—because "token" payments will not win this war any more than "token" resistance will keep the enemy from our shores, our homes.

If your firm has not already installed the Pay-Roll War Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write, wire, or phone: War Savings Staff, Section E, Treasury Department, 709 Twelfth Street NW., Washington, D. C.

You Bet I've Joined Up!

● "As a Service Man I can see that a big part of the job of putting across the Air Conditioning and Refrigeration Industry's Program for Victory rests squarely on me and the other fellows in my branch of the business.

"So I was quick to join up... and you can bet your boots I'll do my part to keep existing equipment on the job, efficiently and economically, for the duration."

This is typical of the co-operative spirit which we have met in our own efforts to promote this sound All-Industry Program for conservation. Like all other items of equipment, automatic controls must be skilfully and thriftily serviced. Under established priority rules Penn is prepared to repair existing controls or supply new controls for those that have to be replaced. *Penn Electric Switch Co., Goshen, Indiana.*



Text of Limitation Order L-126 and Schedule No. 1 of the Order Establishing Specifications for Water Coolers

EDITOR'S NOTE: As explained in the July 13 "Bulletin Issue" of AIR CONDITIONING & REFRIGERATION NEWS a new Limitation Order L-126 affecting the manufacturing of refrigeration and air conditioning equipment, has been issued by the War Production Board. Order L-126 provides for the issuance of schedules establishing specifications and restrictions for production of industrial and commercial air-conditioning and refrigeration equipment. First two schedules under this order, covering water coolers and commercial condensing units, are published on this page and page 11.

PART 1071—INDUSTRIAL AND COMMERCIAL REFRIGERATION AND AIR CONDITIONING MACHINERY AND EQUIPMENT.

Limitation Order L-126

§ 1071.2 Limitation Order L-126—(a) Definitions. For the purpose of this order and all schedules issued pursuant thereto:

(1) "Refrigerating and air conditioning equipment" means any type of machinery, equipment or other apparatus (except a domestic mechanical refrigerator as defined in paragraph (a) (2) hereof and except a domestic ice refrigerator as defined in paragraph (a) (3) hereof) which is primarily designed to lower the temperature of matter, or to regulate the temperature or humidity of air, by mechanical, chemical or physical means, and includes all insulated enclosures, materials, parts, implements and devices used with such machinery, equipment or apparatus in causing it to perform its function of refrigeration or air conditioning.

(2) "Domestic mechanical refrigerator" means any refrigerator for household use which operates either by compression or absorption and which has a net capacity of 16 cubic feet or less (National Electric Manufacturing Association rating) but does not include any low temperature mechanical refrigerator designed for the storage of frozen foods or for the quick freezing of food where the low temperature compartment customarily operates at a temperature of not higher than 15° above 0° F. and contains 75% or more of the total refrigerating space in the refrigerator.

(3) "Domestic ice refrigerator"

means any non-mechanical ice chest or ice box for home use.

(4) "Person" means any individual, partnership, association, business trust, corporation, governmental corporation or agency, or any organized group of persons, whether incorporated or not.

(5) "Required specifications" includes requirements to standardize the types, sizes, models or forms of, or the specifications for, refrigerating and air conditioning equipment; to eliminate, reduce or conserve the use of critical materials in the production or use of such equipment; and to substitute less critical for more critical materials in the production or use of such equipment.

(b) Issuance of schedules of required specifications. The Director of Industry Operations may from time to time issue Schedules establishing Required Specifications with respect to the production or use of any Refrigerating and air conditioning equipment. On and after the effective date of any such Schedule, no Refrigerating and air conditioning equipment affected thereby shall be produced, fabricated, delivered, accepted or installed, if such production, fabrication, delivery, acceptance or installation is prohibited by the terms of such schedule.

(c) Appeals. Any person affected by this order or any schedule issued pursuant thereto who considers that compliance therewith would work an exceptional and unreasonable hardship upon him, or that it would result in a serious problem of unemployment in the community, or that compliance with this order or such schedule would disrupt or impair a program of conversion from non-defense work, may apply for relief by addressing a letter to the War Production Board setting forth the pertinent facts and the reasons why such person considers that he is entitled to relief. The Director of Industry Operations may thereupon take such action as he deems appropriate.

(e) Communications to War Production Board. All reports required to be filed hereunder, and all communications concerning this Order, shall, unless otherwise directed, be addressed to: War Production Board, Washington, D. C., Ref.: L-126.

Issued this 3d day of July, 1942.

J. S. KNOWLSON,

Director of Industry Operations.

Schedule I to Limitation Order L-126

PART 1071—INDUSTRIAL AND AIR CONDITIONING MACHINERY AND EQUIPMENT.

REQUIRED SPECIFICATIONS SCHEDULE I—SELF-CONTAINED DRINKING WATER COOLERS.

§ 1071.3 Schedule I to Limitation Order L-126—(a) Definitions. For the purpose of this schedule:

(1) "Producer" means any person who produces, manufactures, processes, fabricates or assembles self-contained water coolers for supplying drinking water for human consumption.

(2) "Self-contained" means a single cabinet or housing for a drinking water cooler containing, or manufactured to contain, two or more of the following assemblies:

(i) Water cooling low side or evaporator with or without controls.

(ii) Bubbler valve fountain assembly or assemblies, or glass- or pitcher-filler assembly or assemblies.

(iii) Electric refrigeration condensing unit with or without controls.

(3) "Bubbler type" means any type of self-contained drinking water cooler which is designed primarily for supplying drinking water through or by means of a sanitary bubbler or drinking fountain.

(4) "Bottle type" means any type of self-contained drinking water cooler which is designed to be used only with an inverted bottle water container of any size for supplying drinking water.

(5) "Cafeteria type" means any type of self-contained drinking water cooler which is designed primarily for supplying drinking water through or by means of a glass- or pitcher-filler assembly.

(6) "Copper base alloy" means any alloy which contains 40% or more copper by weight.

(7) "Design of cabinet enclosure"

means a particular combination of cabinet enclosure or housing, drain receptor or receptors, bubbler valve assemblies, and glass or pitcher filler assemblies. Any change in the size or location of any of these items constitutes a change in design.

(b) Required specifications. Pursuant to Limitation Order L-126 the following Required Specifications are hereby established for self-contained drinking water coolers:

(1) Types, sizes and capacities.

(See tables at bottom of columns 1 and 2.)

(2) Restrictions on materials.—(i) In the manufacture of self-contained drinking water coolers, no producer shall use:

(a) Aluminum;

(b) Block tin tubing, or tin castings;

(c) Alloy steel, stainless steel, monel, or other nickel alloy metals, except in refrigerant and electric controls, and then only provided that such use is limited to the minimum amount practicable;

(ii) In the manufacture of self-contained drinking water coolers (exclusive of condensing units, motors, controls, and wiring) no producer shall use copper or copper base alloy except in the following parts: (i) low sides, (ii) precoolers, (iii) bubblers, (iv) water valves, (v) water lines, (vi) liquid and suction lines, (vii) refrigerant and temperature controls, (viii) glass- or pitcher-filler, and then only provided that the total weight of such materials per unit does not exceed the respective maximum quantity set forth below for each type and size:

Type A, electric.....	Size 5, 11 lbs.	Size 10, 15 lbs.	Size 20, 20 lbs.
Type B, electric.....	Size 5, 10 lbs.	Size 10, 12 lbs.	
Type C, electric.....	Size 2, 5 lbs.		
Type D, electric.....		Size 10, 12 lbs.	Size 25, 12 lbs.
Type E, iced.....	Size 1, 6 lbs.	Size 2, 13 lbs.	
Type F, iced.....	Size 1, 1 lb.		

(iii) From and after the effective date of this Schedule, the provisions of Conservation Order M-9-c as amended shall no longer apply to the manufacture of self-contained drinking water coolers.

(c) General restrictions. (1) On and after the effective date of this schedule, no producer may produce more than one design of cabinet enclosure for any one type and size cooler as established in paragraph (b);

(2) On and after the effective date of this schedule, no self-contained drinking water coolers which do not conform to the types, sizes and capacities established by paragraph (b) hereof shall be produced or delivered by any producer or accepted by any person from such producer, except with the express permission of the Director of Industry Operations.

(3) The foregoing paragraphs (1) and (2) shall not prohibit:

(i) The delivery by a producer of such self-contained drinking water coolers (nor the receipt thereof from such producer) as were in his stock in finished form on the effective date of this Schedule, or which had on said date been cast, fabricated, formed, or processed in such manner that their manufacture in conformity with this Schedule would be impractical; or

(ii) The installation for use aboard ship of self-contained water coolers, the plans of which have already been drawn, and submitted to and accepted by or for the account of the Navy of the United States or the Maritime Commission.

(Schedule 2 appears on page 11.)

Types, Sizes & Capacities of Water Coolers

TYPE A—ELECTRIC BUBBLER STORAGE TYPE (FOR MARINE AND NAVY USE ABOARD SHIP—AIR-COOLED)

Size	Capacity, minimum	Peak load capacity in 15-minute period, minimum	Maximum fixture equipment authorized
5	5 G. P. H.....	Gallons 1.87	1 bubbler assembly and 1 glass-filler.
10	10 G. P. H.....	3.75	2 bubbler assemblies and 1 glass-filler.
20	20 G. P. H.....	7.50	2 bubbler assemblies and 1 glass-filler.

Note.—Type A cooler capacities are based on the use of a waste water pre-cooler using 60% spill. The above specified capacities are based on an ambient temperature of 100° F. inlet to 50° F. outlet drinking water.

TYPE B—ELECTRIC BUBBLER STORAGE TYPE (FOR LAND USE—AIR OR WATER COOLED)

Size	Capacity, minimum	Peak load capacity in 15-minute period, minimum	Maximum fixture equipment authorized
5	5 G. P. H.....	Gallons 1.87	1 bubbler assembly, and 1 glass-filler if requested.
10	10 G. P. H.....	3.75	1 bubbler assembly, and 1 glass-filler if requested.

Note.—Type B cooler capacities are based on the use of a waste water pre-cooler using 60% spill. The above specified capacities are based on an ambient temperature of 100° F. while reducing water from 90° F. inlet to 50° F. outlet drinking water.

TYPE C—ELECTRIC BOTTLE TYPE (FOR LAND USE—AIR-COOLED)

Size	Capacity, minimum	Storage minimum	Peak load capacity 15 minute period minimum	Maximum fixture equipment authorized
2	2 G. P. H.....	Qts. 2	Gallons 0.75	1 bumper ring for bottles; 1 self-closing faucet.

Note.—Type C cooler capacities are based on an ambient temperature of 90° F. while reducing water from 90° F. inlet to 50° F. outlet drinking water.

TYPE D—ELECTRIC CAFETERIA STORAGE TYPE (FOR LAND USE—AIR OR WATER COOLED)

Size	Capacity, minimum	Storage minimum	Peak load capacity 15 minute period minimum	Maximum fixture equipment authorized
10	10 G. P. H.....	Gallons 5	Gallons 4	2 self-closing glass- or pitcher-fillers.
25	25 G. P. H.....	12.5	10	2 self-closing glass- or pitcher-fillers; 1 outlet for remote use

Note.—Type D cooler capacities are based on an ambient temperature of 100° F. while reducing water from 90° F. inlet to 50° F. outlet drinking water, capacity to be obtained without the use of waste water pre-cooler.

TYPE E—ICED BUBBLER TYPE (GENERAL PURPOSE)

Size	Ice capacity, minimum	Maximum fixture equipment authorized
1	Pounds 50	1 bubbler; or 1 glass-filler.
2	100	2 bubblers; or 2 glass-fillers; or 1 bubbler and 1 glass-filler.

TYPE F—ICED BOTTLED TYPE

Size	Ice capacity, minimum	Maximum fixture equipment authorized
1	25	1 bumper ring for bottles; 1 self-closing faucet; 1 waste faucet.

CURTIS Air Conditioning For Wartime Industrial and Processing Applications

Despite a reduced civilian market, air conditioning and refrigeration equipment for industrial and processing applications is expanding rapidly. A new large volume of industrial and Government installations has become necessary due to Wartime production demands.

Proper temperature and humidity control is required in many tool rooms, in testing laboratories, and in precision gauging work; it aids employee efficiency in many black-out plants, in offices, drafting rooms, etc.

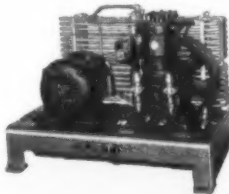
Here is essential, profitable business whose demands are met with the complete Curtis line. Packaged Type Air Conditioning Units —3 and 5 tons—refrigerating machines from ¼ to 30 tons capacity. Curtis Packaged Units offer these advantages—and more:

- Low first cost—economical operation
- Quick, easy installation
- Units cool, dehumidify, filter, and circulate air
- Modern, streamlined appearance
- Models for every requirement
- Adaptability for heating if desired

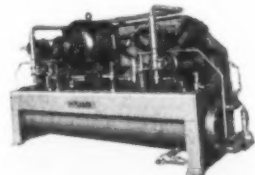
Today's industrial and processing market for air conditioning and refrigeration carries highest priorities. It's good business for progressive dealers everywhere. Write for complete details on the full line of Curtis equipment for this field.

CURTIS REFRIGERATING MACHINE DIVISION

of Curtis Manufacturing Company
1912 Kienlen Avenue, St. Louis, Missouri



The Curtis line includes refrigeration machines from ¼ to 30 tons capacity. Every Curtis product is backed by 88 years of successful manufacturing experience, 24 years of building fine refrigeration equipment.



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Refrigeration Will Help Win the War

Better Be Safe Than Sorry

INVESTIGATORS for the War Production Board are said to have turned up a number of violations of Order L-38, which restricts the sale of commercial refrigeration equipment.

A false rumor apparently got out that beer coolers were to be "unfrozen," and based on such hearsay, some dealers went out and sold a few draft beer installations. Now they're in trouble.

Other violations are reported in the case of sales outlets who have jumped the gun in making installations before their PD-1A's were approved. They have filed application, figured it would be approved, and gone ahead and installed.

Later, to their acute embarrassment, the applications were disallowed.

As to this latter type of violation, about the best we can say is to repeat that old proprietary slogan: "Better be safe than sorry."

And as to the former—sales made on the assumption that a rumor was true—we have one very pertinent recommendation. That is: Don't believe anything until you read it in AIR CONDITIONING & REFRIGERATION NEWS.

This publication has an excellent pipeline to Washington. If any ruling is made, or changed, relative to this industry, we hear about it at once. Generally, we have the information before most people have it. And we publish such information regularly every week.

If you hear a rumor, you have only a few days to wait until the next issue of the NEWS arrives. Then you'll know for sure. If the rumor isn't confirmed in the NEWS, it isn't true—at least, not yet.

Nobody likes to pay fines or go to

jail or be put out of business by decree. Nobody likes to hang a black eye on the industry to which he owes his livelihood. And hence we feel sure that violations of WPB and OPA orders—no matter how onerous or unfair the orders may seem to be in individual cases—will be few and far between in this industry.

If you feel that an order is unfair, poorly drawn, or badly administered, write to the NEWS about it, presenting your evidence. We'll see to it that the right people hear about it, or about your case. But don't just ignore the order, or wantonly violate it.

Sure, this is a free country. We all hate restrictions, and paper work, and red tape. Out of all this mess we're all gaining a real appreciation of the blessings of Democracy; and after the Germans and Japs have been humbled we'll appreciate our Freedom of Enterprise more than ever.

But in the meantime we're all soldiers. We have to obey orders. And filling out those forms isn't nearly as maddening as doing K-P duty—or so our eight service men tell us.

This is a time when we all have to play the game, and play it safe.

LETTERS

REFRIGERATION MAINTENANCE IS A WAR INDUSTRY

Houston Lighting & Power Co.
Electric Bldg.
Houston, Texas

Editor:

We are promoting an electrical appliance repair and service training course through the Houston National War Industry Training School. Our program includes service and repair training on all types of domestic electrical appliances and also includes commercial electric refrigeration.

The first part of the program covers electric refrigeration, and we are using the Household Electric Refrigeration Service Manuals for our text books. The Houston War Industry Training School is placing an order for 24 sets of these books including Nos. 1, 2, 3, 4, and 5. In addition to using these manuals in our school we would also like to reproduce some of the illustrations and enlarge them to approximately 18x30 inches for our lecturer to use before the class. Will you please give us permission to reproduce these illustrations? Also please send us by return mail one set of these books.

H. E. DORRILL,
Sales Promotion Supervisor.

NEW ZEALAND NEWS LETTER

J. Russell Hancock, Ltd.
Evening Post Bldg.
Wellington, New Zealand

May 28, 1942

Editor:

Thank you for your letter of April 14.

There seems to be something of a lull in the Pacific at the moment so there is no news of a dramatic character to pass along to you. Perhaps by the time this letter arrives, trouble will have flared up again.

Many people here seem to be convinced that the Japanese will probably attempt to gain bases in New Zealand, before they make their large scale attack against Australia, the idea being to cut the supply routes between Australia and the United States. However, we are getting lots of American soldiers here now, and we ourselves are preparing thoroughly to play our part in giving the Japanese a warm welcome, if they come here.

All our fit unmarried men and all our fit married men without children, and all our fit married men up to the age of 33 (with children) have already been called up and are in training. The balance of the younger fit married men with children will be called into camp probably within a month or so, and the older fit men—up to the age of 51—together with all those men with a standard of fitness not quite high enough to get them into the army, are being drafted into the Home Guard. The Home Guard has hitherto been a voluntary organization training in the evenings and weekends, and as a matter of fact a very large proportion of those not in the army are already members and have been for about 18 months.

They'll Do It Every Time By Jimmy Hatlo



You will see that New Zealand, which has in the past been among the most peaceful and democratic of all the democracies, is now totally at war.

While we welcome and must have assistance in defending what is your frontier as well as our own, you will see that we ourselves are preparing to defend our own country to our own last man.

As for commercial news, you may be interested to know that in response to a request from your authorities, our Government has called upon the various trades to organize themselves into associations for the purpose of placing bulk orders, which I understand are then going to be placed through our Government and through your Government, with manufacturers in the United States.

The refrigeration trade in this country is right at the moment in the process of forming such an association—it will include all the local distributors and ourselves as jobbers. Our orders have all been placed and the consolidated order for the whole trade is being handed to our own Ministry of Supply today (May 28th). From our point of view, it seems that this will not save any time, but actually increases overhead, because we have to set up the machinery for consolidating the orders and dealing with the Government Departments concerned, and also we have to have much increased staff in our relative government departments to deal with these orders.

This is offered by way of comment and certainly not by way of complaint, because it is very plainly to be seen how this consolidation of requirements will enable the Government authorities concerned to allocate production and conserve production facilities. Perhaps some way will be found in due time, of dealing with the matter in a more economical fashion at our end.

There is one danger in this procedure that I hope the governments concerned will take precautions against. The consolidation of orders as we know it today means that the whole of the Dominion's requirements of certain parts and units will come from one source, whereas they have in the past come from a number of sources and in many ships. If as a consequence of the orders being placed in bulk, they are shipped in bulk—that is the whole of the Dominion's needs of one essential part are consigned in one ship—then a serious state of affairs may result from any sinkings that occur. For example, even if the bulk of our refrigeration needs for defense and essential purposes arrive here intact, we shall be in a most unhappy position if all of our expansion valves are lost on the way by enemy action.

J. RUSSELL HANCOCK

FARMERS ASK 'WHAT HAS WPB DONE ABOUT HOUSEHOLD REPAIR PARTS?'

Indiana Farm Bureau Cooperative Assn., Inc.
47 S. Pennsylvania St.
Indianapolis, Ind.

Editor:

In all the information we have read in various publications, with regard to the action of the WPB toward the refrigeration industry, there has been only negative reference to household refrigeration.

What we would like to know is whether or not to your knowledge the WPB has taken any action, or made any direct statements as to what they expect to do, with regard to necessary repair parts for household refrigerators. In other words, do they expect them to be kept in operation or do they expect them to go out of service as repair parts become unobtainable?

We are not at all interested in arguing a decision but we are interested in finding

out if there has been one. We find that we are unable to get repair parts (such as expansion valves) repaired without a priority rating.

Any information you can give us to settle our uncertainty in this matter will be appreciated.

K. W. HAGANS,
Farm & Home Modernization Dept.

CAN'T QUIT THE BUSINESS

10 Raymond Ave.
Batavia, N. Y.

Sirs:

The delay in my subscription to the NEWS this spring is due to a long illness having been away from home since Feb. 6th 42 upon returning find copies of the NEWS in every conceivable place awaiting my attention.

Am trying to wallow through them one at a time—and try to absorb the meaning of all of the new conditions imposed upon one today. Tell me do you think it best I do or not? It may land me right back in the hospital—

But after declaring that several times that I'm going to quit—Refrigeration—I just can not keep my word, after 12 years of service to the trade it becomes like a part of me come what will—

So here goes please accept my overdue subscription for another—hoping that we will both be in the running a year hence,

It is similar to the old game of professional wrestling that I was in for 17 years, I never said quit then, and will not say it now,

Thanking you kindly for the courtesy of continuation of the NEWS,

ROBERT J. WILKIE

MISSSES THE NEWS

Suburban Air Cond. Corp.
116 State St.
New Haven, Conn.

Sirs:

Please send us a copy of May 11 issue, and enter our subscription for six months. Send to 116 State St., New Haven, Conn.

We are receiving the REFRIGERATION NEWS, at the present time, at our Mt. Vernon office and surely miss it here in Connecticut.

SUBURBAN AIR CONDITIONING CORP.

COPPER RECOVERY CORP.

Refrigeration Maintenance Corp.
1127 Carnegie Ave.
Cleveland, Ohio

Editor:

Would you please send me the address of the Copper Recovery Corp., which was formed by the WPB.

WARREN W. FARR

Answer: Address of the Copper Recovery Corp. is 200 Madison Ave., New York, N. Y.

LIKES OUR EDITORIALS FOR DISTRIBUTORS AND DEALERS

The Ironrite Ironer Co.
Knoxville, Tenn.

Editor:

Please enter my subscription to AIR CONDITIONING & REFRIGERATION NEWS magazine and send me bill for one year. If possible, I should like to receive your May issue.

In times like these it is interesting to note your writer's wholesome viewpoint on the industry subjects and I wish to commend you on the position you are taking with reference to the appliance distributor and dealer future in your editorials.

W. FRANK SMITH

Specifications For Condensing Units As Established In Schedule II of Order L-126

PART 1071—INDUSTRIAL AND COMMERCIAL REFRIGERATION AND AIR CONDITIONING MACHINERY AND EQUIPMENT.

REQUIRED SPECIFICATIONS SCHEDULE NO. II (REFRIGERATION CONDENSING UNITS) TO LIMITATION ORDER NO. L-126.

§ 1071.4 Schedule II to Limitation Order L-126—(a) Definitions. For the purpose of this schedule:

(1) "Producer" means any person who produces, manufactures, processes, fabricates or assembles refrigeration condensing units.

(2) "Refrigeration condensing unit" means a specific refrigerating machine combination, of the open type intended for remote installation, consisting of a compressor, receiver, base, and the usually furnished accessories, with or without motor, and with or without condenser. As used in this schedule, the term refrigeration condensing unit refers only to such units which are to be used in refrigerating and air conditioning equipment as defined in paragraph (a) (1) of Limitation Order No. L-126.

(3) "Open type" refrigeration condensing unit means that type of unit in which the motive power and compressor are interconnected in such a way that a refrigerant shaft seal is necessary.

(4) "Model" means a specific combination of the following items in a refrigeration condensing unit:

- (i) Base.
- (ii) Valves.
- (iii) Condenser.
- (iv) Number of cylinders.
- (v) Bore and stroke.
- (vi) Motor (H. P. rating).

Any change in any one of the above items constitutes a change in model, except that conversion of a water cooler to an evaporatively cooled condensing unit does not constitute such a change in model.

(5) "Compressor body" means that part of a compressor which consists of a specific combination of bore, stroke, valve and cylinder.

(6) "Duplex condensing unit" means any refrigeration condensing unit consisting of two or more compressors which are powered by one or more motors mounted on a common base, and which discharge into a common condenser.

(7) "Lend-lease country" means the government of any foreign country receiving aid pursuant to the Act of March 11, 1941, entitled "An Act to Promote the Defense of the United States" (Lend-Lease Act).

(b) Required specifications. Pursuant to Limitation Order L-126, the following required specifications are hereby established for refrigeration condensing units:

(1) No producer shall:

(i) Manufacture any refrigeration condensing units in sizes below 3/4 hp.

(ii) Manufacture any refrigeration condensing units up to and including 2 hp., except in air cooled condensing models. Water cooled condensing models below 3 hp. may be produced only after it has been demonstrated to the satisfaction of the Director of Industry Operations (in an appeal pursuant to paragraph (c) of Order L-126) that air cooled models are impractical or hazardous;

(iii) Manufacture any refrigeration condensing units above 2 hp., except in water cooled and evaporatively cooled models;

(iv) Manufacture any duplex condensing units up to and including 20 hp., except for multi-stage applications;

(v) Manufacture or assemble more types of basic compressor bodies than an amount equal to one-half the total number of types (by hp. rating) of refrigeration condensing units produced by him.

(vi) Manufacture more than one refrigeration condensing unit model in any given hp. rating for the suction temperature brackets of 5° F., 20° F., and 40° F. respectively, and for each of the following refrigerant classifications:

- (a) Ammonia,
- (b) Carbon Dioxide,
- (c) Freon, Methyl Chloride, Sulphur Dioxide;

(vii) Deliver any refrigeration condensing unit model, of the belt-

driven type, unless it includes a motor pulley and belt drive at the time of shipment.

(viii) Without specific authorization of the Director of Industry Operations, manufacture any refrigeration condensing unit in a hp. rating not produced by him before May 1, 1942, nor manufacture any unit which is designed to use a refrigerant not used by him prior to May 1, 1942; or

(ix) Use any metals in the construction of the base of any refrigeration condensing unit employing a motor of 3/4 hp. and below, or a motor of above 20 hp., except that ferrous metals may be used for necessary bolts, washers, nuts, straps, sole plates, pipe sleeves, and adjustable motor rails: **Provided**, That the restrictions in this subparagraph (ix) shall not apply to refrigeration condensing units for use in aircraft by the army or navy of the United States, or for use aboard ship by the Navy of the United States or the Maritime Commission.

(c) Applicability of order. (1) The required specifications established by paragraph (b) hereof shall apply to all refrigeration condensing units; provided, however, that the foregoing shall not prohibit

(i) Installations for use of units the plans of which have already been drawn, and submitted to and accepted by or for the account of the Army or Navy of the United States, the Maritime Commission, or Lend-Lease Countries, and

(ii) The delivery by any producer of such units (nor the receipt thereof from such producer) as were in his stock in finished form on the effective date of this Order, or which had on said date been cast, machined, or otherwise processed in such manner that their manufacture in conformance with this schedule would be impractical.

WPB Appeals Branch In Washington Takes Order M-126 Cases

WASHINGTON, D. C.—Appeals by manufacturers for relief from restrictions imposed by General Conservation Order M-126, which banned the use of iron and steel in the production of hundreds of common civilian articles, will now be passed upon by a new Appeals Branch, set up within the Bureau of Priorities to handle all requests for exceptions to conservation and limitation orders.

The Appeals Section of the Iron and Steel Branch, which has been operating in New York City, has been recalled to Washington and its functions taken over by the new unit.

For the time being, the Appeals Branch will consider only requests from firms affected by M-126. Later, it will take over the handling of appeals from manufacturers covered by certain other conservation and limitation orders, but in the meantime all queries and requests concerning these should be addressed, as formerly, to the appropriate material or industry branch.

Appeals from the terms of General Conservation Order M-126 must continue to be made on Form PD-437 and filed with the nearest WPB field office, together with any additional evidence which a manufacturer who considers himself subjected to undue hardships believes would be helpful to his case. After a preliminary processing in the field offices, the appeals will be forwarded to Washington for final decision.

Communications concerning M-126, other than the filing of appeals, should now be addressed to the Appeals Branch, Bureau of Priorities.



VOLUME 3

DETROIT, MICH.

Published in the Interest of Equipment Conservation through More Effective Servicing

Leaking Compressor Valves and Lost Expansion Valve Charge

LEAKING COMPRESSOR VALVES. Leaking compressor valves cause excessive running time. A slight leak may cause temperatures lower than normal—a bad leak higher than normal.

Detection:

A. When turned over by hand compressor feels weak.

B. When discharge shut-off valve is closed, if pressure decreases quickly it indicates leaking discharge valves.

C. Single cylinder compressors will not pump low vacuum and multiple cylinder compressors will not pump vacuum as quickly as usual.

D. Head pressure may be low.

EXPANSION VALVE LOST CHARGE. Gradual loss of charge will cause starved evaporator and low suction pressure or short cycling. Complete loss of charge causes valve to close off.

Be sure to check for frozen valve, clogged strainer and valve location, before removing valve.

Detection:

A. Warming feeler bulb will not affect operation.

NOTE: This may also be true with clogged strainer or frozen valve.

B. Allow valve to warm up, then warm feeler bulb and see if valve is open.

Reprints of this—the third of a series of helpful hints—will be supplied upon request.

SYMPTOMS					PROBABLE CAUSE
Condition of Job	Evaporator Condition	Running Time	Suction Pressure	Suction Line Temperature	
Warm	Warm	Won't Start	Low	Warm	Expansion valve lost charge
Warm	Warm	Continuous	High	Warm or Normal	Compressor valves leak
Warm or Normal	Starved or Partly Refrig.	Short Cycle	Low	Warm	Expansion valve lost charge
Normal or Too Cold	Cold	Continuous or Too Long	Normal or Low	Normal	Compressor valves leak

DETROIT LUBRICATOR COMPANY

General Offices: DETROIT, MICHIGAN

Canadian Representatives: Railway & Engineering Specialties Ltd., Montreal, Toronto, Winnipeg

ties, War Production Board, Washington, D. C.

In general, granting of appeals will be considered only after it has been determined that no other adequate relief is available to the applicant. Relief available in many cases without granting an appeal from the terms of a WPB order includes:

(1) Assistance in disposing of frozen inventory materials to other companies permitted to use them, or to Government agencies;

(2) Re-sale to the source of supply;

(3) Assistance in securing war orders or in conversion of facilities to direct war production.

(4) Advice on obtaining financial assistance from the Bureau of Finance in the Division of Industry Operations;

(5) Assistance in the disposal of idle production equipment.

When an appeal is filed for permission to assemble processed inventories in excess of the terms of limitation or conservation orders, full description of inventories on

hand should be enclosed.

An Appeals Board has been formed, under the chairmanship of Dr. A. N. Holcombe, Professor of Government at Harvard, who recently has been acting as consultant to Donald M. Nelson, WPB Chairman. The Board will decide all appeal cases in accordance with established WPB policies.

Pending selection of a permanent chief, Arthur L. Harris, Jr., Assistant Chief of the Bureau of Priorities, will act as head of the Appeals Branch.

Special Form PD-25G No Longer Required

WASHINGTON, D. C.—Special reports on Form PD-25G will not be required from companies operating under the Production Requirements Plan after the next report.

Form PD-25G has been used for monthly reports of extensions of AA ratings and ratings for "as required" items by companies using PRP.

Under the terms of Priorities

Regulation No. 11, issued June 10, no company which obtains priority assistance under the Production Requirements Plan may apply or extend any other preference ratings after July 1. This eliminates the permission previously granted to extend AA ratings and ratings for "as required" items. The use of Form PD-25G will, therefore, no longer be necessary after the report for the month of June.

Hurley Heads Consumers Durable Goods Branch

WASHINGTON, D. C.—John A. Hurley of St. Joseph, Mich., has been appointed Chief of the Consumers Durable Goods Branch of WPB by Philip D. Reed, Chief of the Bureau of Industry Branches.

Mr. Hurley succeeds Louis C. Upton, who is returning to his position as president of the Nineteen Hundred Corp., St. Joseph, Mich.

Before coming to the WPB, Mr. Hurley was general sales manager of the Nineteen Hundred Corp.

DUPONT
Artic
For information about nearest source of supply, write to
ELECTROCHEMICALS DEPARTMENT
E. I. DU PONT DE NEMOURS & CO. (INC.)
Wilmington, Delaware
or National Ammonia Division
Frankford P. O. Philadelphia, Pa.

**TO ASSURE QUICKER DELIVERIES
RETURN EMPTY CYLINDERS PROMPTLY!**

There is a shortage of cylinders for refrigerants. If you will return your "Artic" Methyl Chloride containers as soon as empty, your deposits will be

repaid immediately—and you will prevent delays in shipments of "Artic" to your shop! Round up any empties you have now and ship them back!



Use of Conditioned Buildings for Raid Shelters Suggested

LOS ANGELES—Air conditioned buildings whose systems can be equipped with charcoal canisters to make them "gas-proof" may become air-raid shelters under a plan proposed by a North Hollywood air-raid warden, Matt N. Simon.

Simon's plan is to use bowling alleys and other public recreation centers of that type. He points out, however, that the idea is applicable to almost any type of air-conditioned building which has few windows and is structurally safe.

In Los Angeles, the bowling alleys which have sprung up by the hundreds, are huge structures, some of them covering as much as a full city block. And practically all of them are air conditioned.

There has already been some research on use of air-conditioning systems in making buildings gas-proof and most experts believe the idea is entirely practical. Where the system permits this and there aren't too many people in the building, inside air could be re-circulated for some time. Otherwise, a simple charcoal canister installation operating on the same principle as a filter in a gas mask would make it possible to use outside air. It is reported that some war-industry plants are already so equipped.

Air Washing Improves Coal Mine Conditions

WHEELING, W. Va.—Air Conditioning of the Beech Bottom mine of the Windsor Power House Coal Co. located up the Ohio River from here is expected to compensate easily in lost time, increased production and workmen's compensation insurance for the original cost of the \$25,000 air-washing system.

To air condition the mine, engineers passed "cold exhaust air from the mine through water, re-cooling it" so that it air conditions the mine at a constant temperature.

Already 500 miners working the property claim they feel better.

How United Air Conditions Planes on Ground & Provides Added Heating or Cooling with Fresh Air during Flight

CHICAGO—Whether the outside air temperature stands at 10° below zero or 100° above, passengers aboard the nation's modern airliners ride in comfort as they streak along at 200 miles an hour and at 10,000 feet or so. Scientific air conditioning, working hand in hand with the science of modern air transportation, is the answer.

At key stations along its coast-to-coast and Pacific Coast routes, United is employing a new type of "comfortizer"—which is used in maintaining comfortable room temperatures in the cabins of the company's Mainliners regardless of outside air temperatures. In the air—the 70° temperature of the Mainliner cabins is maintained through the combined use of cool, outside air and steamheated air.

The "comfortizer" on air conditioner used by the company on the ground is of an entirely new type, built to United's specifications by the O. E. Wendt Co. and Delco Appliance Division of General Motors Corp. Complete unit is mounted on a GMAC truck. As planes arrive at major terminals, these trucks move alongside and, through a simple attachment, begin pumping hot or cold air into the cabins as the need may be.

As contrasted with other means of cooling used in previous airplane air conditioners, United's "comfortizer" employs ice. Water from the ice is atomized and air is drawn through the resultant vapor before being pumped into the Mainliner cabin. With a capacity of 1,500 c.f.m. of ice-cooled air, the unit will reduce cabin temperature from 100° to 80° F. in 20 minutes, it is claimed. Due to the use of vapor spray, 6 tons of cooling is obtained from 800 lbs. of ice, according to United's engineers.

For heating, the "comfortizer" has a standard Delco oil burning furnace of the kind used in a seven-room house. Capacity of the heater is 250,000 B.t.u. per hour. This is operated by a power takeoff from the truck motor.

In the air, the stewardess sees to it that the cabin is comfortable at all times. In the nose of the

plane is a valve through which outside air is introduced into ducts leading to the cabin. One duct carries the air through a steam radiator. The other by-passes the radiator. By means of a control panel in the cabin, the stewardess can select the right combination of cool and warm air to maintain the proper temperature. If she moves the regulator to "warm," all incoming air passes through the radiator; if she moves it to "cold," all incoming air by-passes the radiator. Any position in between these two extremes provides the proper air mixture. Air ducts continue on into the cabin along the floor-line on both sides of the cabin with an outlet at each seat.

Heating system consists of a flash-type boiler located in the exhaust pipe of the right engine and with a water shell surrounding the exhaust pipe, a radiator, a reserve tank, and connecting lines. Heat from the exhaust generates the steam which is maintained at a constant pressure by means of the reserve tank or steam reservoir located at one side of the companionway between the cabin and the pilots' compartment. The plane's boiler is capable of producing 150,000 B.t.u. per hour, or enough heat for a five-room house, while the nose valve admitting outside air is capable of handling 1,200 c.f.m., thus enabling a complete change of cabin air once each minute.

In addition to these devices provided for their comfort, passengers have individual ventilators above each seat or berth by means of which they can obtain additional cool air if they so desire. Cabin insulation is another factor in providing comfort either in summer or winter.

In the summertime, the natural decrease in temperature accompanying gains in altitude works with the plane's air conditioning devices to insure cool comfort. Normally, there is a 5° drop in temperature for each 1,000 feet above sea level. Thus, if the temperature on the ground stands at 100°, that at 10,000 feet will be 50°—and steam-heated air will be required for passengers even while people are sweltering on the ground below.

Air conditioning is employed by United Air Lines in connection with other facilities than its planes. For example, at the company's newly completed general headquarters building in Chicago, there is the latest type of zone control air conditioning which makes it possible to provide air of different temperatures to various parts of the building according to requirements. Also, at the company's big maintenance base at Cheyenne, Wyo., there is a novel use of air conditioning in the instrument shop where experts are working with jewelers' tools on all the various, finely-attuned "gadgets" which go on the instrument panel of a plane. Here the air of the shop is turned over and filtered every three minutes with a provision of 2,000 cu. ft. of fresh air per man per hour being filtered and introduced into the shop.

Cards in Hotel Rooms Tell How to Operate Air Conditioning Units

SYRACUSE, N. Y.—So that hotel patrons and other "non-regular" users of Carrier room air conditioners may know how to get the best results from such equipment, Carrier Corp. is making available to hotels and similar establishments a series of attractive cards containing explicit instructions for operation of various types of room Weather-makers.

Headed, "How to Enjoy Air Conditioning with the Carrier Room Weathermaker," each card illustrates the various controls on the equipment and explains in simple language how to cool the room, how to remove smoke, how to control direction of air flow, how to ventilate without cooling, etc.

Not only will hotel patrons be able to get the type of performance they desire, but they are urged on the cards to "Conserve for Victory," and not to operate the air conditioner when the room is comfortable.

Short Term, Maximum Occupancy of Navy Recreational Center Made Real Problem For Air Conditioning Engineers

SYRACUSE, N. Y. — Unusual problems in heating and air conditioning faced Carrier Corp. engineers recently in the construction of the recreational building of a large Southern naval base. Short period operation of the air conditioning, a greatly varying internal heat load, and high humidity and temperature conditions in summer months were some of the problems to be faced.

First such building to be air conditioned, the recreational structure does many jobs. It serves alternately as a church, motion picture theater, assembly hall, ballroom, club house, and game house, and seats a maximum of 800 persons. Each phase of the cooling-heating system needed to be built for maximum efficiency at short-period operation, inasmuch as the building is in use only a short period of each day. Provision was made to heat or cool the building swiftly for an hour or more before it was to be occupied.

To meet these conditions there was installed a combination cooling, heating, and ventilating system that distributes conditioned air. A steam coil preheater for cool days, and two Carrier gas-fired unit heaters combined with the steam coil for bitterly cold days, are included in the equipment in addition to the air conditioning system of 50 ton cooling capacity.

Higgins Industries, Carrier dealer in New Orleans, installed the compressor and evaporative cooler in a small room built on the side of the building near the stage, occupying only about 45 square feet. Direct-expansion cooling coils, fan and mixing chamber are located on a built-up platform constructed of heavy timber over the stage where it is out of the way. From this point cooled air passes through ducts in the attic over the auditorium seating space, branching to six ceiling grilles which "mushroom" the cooled air gently over the whole space.

A small take-off duct delivers cooled air to the space under the balcony, which seats approximately

150 persons. A short intake duct at the fan housing permits 100% outdoor air if desired. This arrangement is designed for use in mild weather when the building is full.

Three banks of direct-expansion cooling coils are located in the mixing chamber on the platform over the stage. Return grilles are located at either side of the stage, and contain thermostatic controls. Under ordinary circumstances a part of the air will be recirculated, with the amount of outdoor air admission regulated according to the number of people in the building.

This made it possible to use four-step refrigeration, whereby the compressor operates at 20, 30, 40, and 50 ton cooling capacity according to the heat load. For most lectures, motion picture use, etc., the compressor will use 30 or 40 tons; at peak demand, 50 tons. Temperatures between 80 and 85° F. can be economically maintained, the engineers state.

Auxiliary winter heat is provided by two separate systems to compensate for varying circumstances. One large Carrier gas unit heater is located at each side of the stage, with separate ductwork and grille down each side of the building. With 100,000 B.t.u. heating capacity each, these will rapidly heat the building. Heating is thermostatically controlled, regulators being installed in the return air ducts at the floor level in front of the stage.

However, during periods of intense cold, when the building is crowded, a large percentage of outdoor air must be admitted to dilute any odors. Provision for this is made by an outdoor air intake at the side of the building which contains a preheater steam coil, using steam from a low-pressure gas-fired steam boiler in the basement. Air passed over this coil is warmed sufficiently in cold weather to allow the gas heaters to handle the heating load while admitting 50% or even more outdoor air. During mild winter conditions, the steam coil will be sufficient to heat the building.

OILITE BEARINGS On All Par Models!!!

PAR compressors use genuine Oilite crankshaft bearings... the pioneer-quality, porous bearings that insure constant, effective lubrication and assure the user trouble-free performance for long years of service.

This feature is typical of PAR's careful attention to important engineering details—such details as 3-ring pistons... bulls-eye oil gauge... drop-forged crankshaft... full "commercial-type" controls. These give maximum efficiency at minimum operating costs.



PAR
Refrigeration Equipment

See your jobber's display of PAR equipment... or write the factory for your copy of the FREE PAR CATALOG "R"—a manual for service engineers!

LYNCH MANUFACTURING CORP., Defiance, Ohio
Formerly Modern Equipment Corp.

★ ★ ★ FOOD—THE FIRST LINE OF DEFENSE CONSERVE IT WITH REFRIGERATION! ★ ★ ★



RARIN' TO GO!

SILICA GEL
DAVISON PRODUCT
THE DAVISON CHEMICAL CORPORATION
BALTIMORE, MD.

GREATER CAPACITY—1½ to 2 times as much as other drying agents.
ACTS INSTANTLY—No delayed action in any system.
REMOVES ACIDS—Prevents corrosion and formation of sludge.
DOES NOT CAKE NOR POWDER—Refrigerant flows freely through the system.

Ask your jobber for your favorite dryer charged with Davison's Silica Gel or Silica Gel in bulk for refill. It is ready to be your dependable working partner—now more than ever!

Davison's Silica Gel is the drying agent that meets TODAY'S requirements. Its dependability has been proved in the past; it will

help you conserve time and materials; it will help you build future business by helping you give your present customers greater satisfaction now.

Give more customers better service by preventing troubles caused by moisture. Standardize on Davison's Silica Gel—the drying agent that's Master Over Moisture.

Keep 'Em Running with Davison's

SILICA GEL

THE DAVISON CHEMICAL CORPORATION
Silica Gel Department
BALTIMORE • MARYLAND

HERE'S A NEW CONTEST WHICH YOU CAN WIN

*Win Cash Prizes—Help Win the War
in this new kind of contest*

**Get Cash for Telling
About Jobs You've
Sold to War Plants**

**Distributors and Dealers, Contractors,
Jobbers and Servicemen Are Eligible**

Do you want to help win the war—and make money doing it? Here's your chance. AIR CONDITIONING & REFRIGERATION NEWS is sponsoring a new prize contest with cash awards for readers who will write articles on how they have gone about selling refrigeration equipment on priority to war factories in their territories. Every reader is qualified for entry in this contest who has sold or installed equipment for preserving food or for processing materials (items like rivet coolers, metal shrinkers, air conditioners) to a war plant.

Frankly, while editors of AIR CONDITIONING & REFRIGERATION NEWS have been very successful in obtaining application stories of this kind from the field, they realize that there are many unusual war factory installations which have not been reported in the NEWS. By writing about the jobs you have sold or installed, you can help the industry uncover these new applications for refrigeration in war work. In doing so, you will be helping the industry, helping the war effort and will be making money for yourself.

Polished journalistic style and literary talent don't count in this contest. Write down the details as outlined in the rules at the right and NEWS editors will "doll up" the story (if necessary) for publication. If the material you send in is published in the NEWS, you will be paid for every word printed, and, in addition, you qualify to win an extra \$50 cash prize for the best article submitted.

This contest won't last long. It closes Aug. 10. So right now, or tonight, pick out the most interesting war factory job you sold or installed this year and write down the details. Send the information to the NEWS immediately—there's an excellent chance you will win one of the many awards offered for articles published, and maybe the \$50 cash prize for the best article. Get started now!

Don't worry about censorship! Include all the details you feel are essential to tell the whole story. Editors of Air Conditioning & Refrigeration News will censor the story and eliminate any information which should not be published.

Contest Rules

Name of Contest: "HOW I SOLD REFRIGERATION EQUIPMENT ON PRIORITY TO A WAR FACTORY"

Participants: Distributors, dealers, contractors, jobbers, servicemen and their salesmen are invited to participate in this prize contest.

Dates: Contest begins now and ends Aug. 10, 1942.

Rules: Prizes will be given to participants whose articles on the subject "How I sold refrigeration equipment on priority to a war factory" are accepted for publication in AIR CONDITIONING & REFRIGERATION NEWS. Articles are to consist of 500 to 3,500 words telling how participant sold either food preservation or industrial processing refrigeration equipment to a war factory between Jan. 1, 1942 and Aug. 1, 1942.

Information to include in articles: Why and how you made contact with the factory to which equipment was sold. How you found the right man to talk to. How you uncovered their refrigeration problems. Complete description of equipment sold, including size of unit, fixtures, approximate overall cost, etc. If a job for materials processing (rivet coolers, oil coolers, metal storage, etc.), include information as to the savings in time or money, or increase in production resulting from the installation. If the job required special detailed layouts, describe your design and layout. Include size of plant and type of war work performed. Necessary censorship will be done by NEWS editors before publication.

Prizes: 1¢ per word for article as published; \$2 per published photo. \$50 cash prize to writer of best article, judged on interest of article and application, detail given in story. Winner's names will be announced and best articles published in Aug. 31, 1942 issue of AIR CONDITIONING & REFRIGERATION NEWS.

Judges: Articles will be judged by a board of three members of the editorial staff of AIR CONDITIONING & REFRIGERATION NEWS. Judges' decisions will be final. All articles become the property of AIR CONDITIONING & REFRIGERATION NEWS and manuscripts will not be returned unless specifically requested.

Mail articles to Managing Editor, AIR CONDITIONING & REFRIGERATION NEWS, 5229 Cass Ave., Detroit, Mich.

TIME IS SHORT—START NOW

CONTEST CLOSING AUGUST 10

Dealer's Service Ad Pulls So Well That He Has To Get Out His Tools & Go Back to Work

LOS ANGELES—"Parts permitting, any refrigeration dealer who has a service department or can start one with a good service man in charge need not worry about the future. There'll be more of this business than all of us can ever hope to handle." So says Harry E. McConnell, 1027 N. Alvarado St. here.

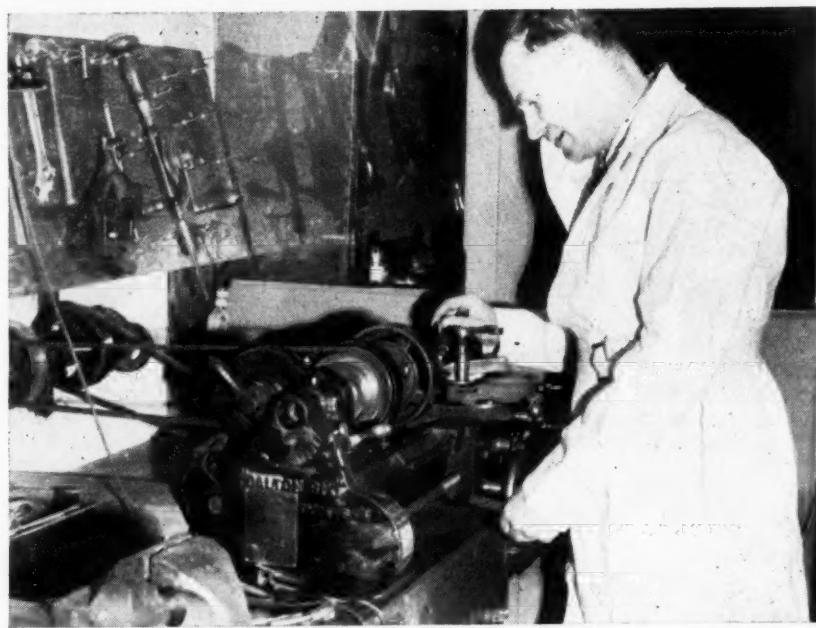
Harry, who has spent 25 years in the business and has traveled as far as Russia and Japan on installation work, backs up this assertion by citing the results of a peculiar incident. In the past he has advertised quite widely in a neighborhood newspaper. Considering the situation one evening recently, he was "doodling" with a service advertising idea. The layout he'd drawn up wasn't in final form; in fact he'd almost decided against running an advertisement.

But the next morning when he was out, the paper's advertising solicitor came in and found the rough layout on his desk; thinking McConnell wanted it run, he rushed it into an issue of the paper which was just going to press.

The very next day service calls started pouring in. By the end of the day McConnell was swamped. He had to put his radio service man onto other appliances and then start scraping for extra help. He's still getting more calls on that ad than he can really handle.

"The moral is to be careful what you advertise," says McConnell. "There's a greater demand for service now than ever before. Many established shops are swamped. People who want immediate service jump at an ad of this kind. Obviously, the dealer's first responsibility is to take care of his own customers. If he gets too much business pouring in, he can't do that properly."

"A new service company or a dealer who adds a new service department must naturally do some advertising. But even in a case of that kind, it pays to be sure you have adequate facilities and enough men to handle a big volume. It's a lot better to move slowly, take care of your work right and get a legitimate price for it than to take on a huge volume that you can't handle efficiently."



Harry McConnell, Los Angeles dealer, goes back to work in his service shop as business booms.

To meet the problems occasioned by the shortage of trained labor, McConnell has personally "gotten out his tool box." Since he started in the service end of the business, the change was an easy one. A growing appliance business in recent years has kept him busy on the sales and administrative end, but now he's turned all the selling over to a couple of remaining salesmen, is devoting his full time to service.

"A man should never get the idea that he's beyond the stage of working with his hands," says McConnell. "The fact that you own a business and have worn a white collar for a few years doesn't make you too good to carry a tool box. By doing as much service work as possible yourself, you hold down overhead and meet a tough labor problem; furthermore, you see that customers are satisfied."

Because of his long service experience, McConnell picks the tough jobs, leaves the easy ones for his men. In a single day he'll sometimes travel as much as 500 or 600 miles shooting trouble—from a yacht or

a Navy vessel to some isolated installation far up in the mountains.

When it comes to going after business, McConnell is a lot more interested in the commercial refrigeration service than household. The commercial end is much the more profitable of the two, he finds.

"We've got to take care of our customers, wherever they are and of whatever type," McConnell continues. "But as far as profit goes, commercial's the thing. A good percentage of the volume must be there to 'come out.' You may spend a whole morning getting some little noise out of a domestic refrigerator. In that time you could be completely servicing two or three big commercial jobs—restaurants, markets, and so on."

"But we take the sour with the sweet. If we have to drive 50 miles to replace a light in a domestic refrigerator that happened to burn out after we left (of course the customer always blames it on you) we'll take the blame and do it cheerfully."

The best source of service business of all types, McConnell finds, is the use of good-sized stickers placed on appliances. Whether the equipment was sold by this store or not, a sticker is put on whenever a service call is made. And the customer's attention is always called to the telephone number shown on the sticker.

McCONNELL AVOIDS HEAVY PARTS INVENTORY

Even in years when there was relatively little service work, the Los Angeles dealer has always done a volume in this department and made a real profit. The answer, he says, lies in two things: good work and avoiding a heavy parts inventory.

"Many a service man has made the mistake of keeping his profits tied up on the shelf—in quantities of parts he never used," says McConnell. "It's a mistake to buy parts of any type in quantity because you can't possibly gauge usage."

By maintaining one of the most complete and well equipped service departments in Los Angeles, McConnell has not only been able to build a profitable service business but also to recondition used appliances at a cost which makes possible profitable re-selling. This phase of the operation is naturally being expanded now.

However, McConnell believes in being selective about buying. His salesmen are his buyers but, they work only among old customers and their buying is carefully supervised. Because he finds that competitive bidding forces prices too high, he never follows up advertisements or buys at auction.

When a salesman finds an appliance, he phones in data on make, model, and condition. McConnell tells him what to bid—and that's the end of it. If the job can't be bought at his price, he doesn't buy.

"It's foolish to pay too much for appliances now just as at any other time," McConnell observes. "We always stop to consider the items of cost before we buy. First, there's \$7.50 to cover service under our guarantee. Then we have to figure \$10 for pickup, delivery and a clean-up job. Finally, there 12% of the sale price for commission. Even on a good appliance that requires nothing but cleaning up, you have a heavy cost there to begin with."

Priorities Regulation 13 Allows Sale Of Frozen Inventories of Critical Materials by Simplified Rules

WASHINGTON, D. C.—Hundreds of thousands of tons of critical materials now frozen in idle inventories will be freed for vital war production by a regulation issued by the War Production Board.

The new order, Priorities Regulation No. 13, affects thousands of business concerns who have in their possession materials worth hundreds of millions of dollars which cannot now move freely in industrial channels because of war regulations.

In effect, Regulation No. 13, sets up new and uniform rules governing the sale of idle inventories of certain kinds and removes such specified sales from the existing regulations which affect the normal flow of material.

No specific estimates of the amounts of materials which can be salvaged in this way are available. However, the total is known to be extremely large, and in the case of copper base alloys alone, for example, it is believed that some 250,000 tons of this war metal can be freed by the new step.

Limitation orders, issued by WPB in anticipation of industrial conversion to war production, and to conserve scarce materials, contain various provisions which restricted disposal of inventories frozen as a result of their terms. In some cases, certain permitted types of sale were listed in the original order. In other cases, no sale might be made without application to Washington and the specific authorization of the Director of Industry Operations. These restrictions are now replaced by the conditions established in the new regulation, which controls all sales of restricted material including those sold in liquidation and bankruptcy proceedings.

An example of the simplified procedure effected by Regulation No. 13, says the WPB, is afforded by the case of a domestic refrigerator manufacturer who had on hand a large stock of copper tubing when prohibition of any further refrigerator production became effective. The tubing was badly needed by a firm, in the same city, which was turning out tank assemblies.

By the terms of Limitation Order L-5-c, transfer of the critical material could not be made until official approval, obtainable only after application to WPB, had been secured. Beginning today, such a sale may be made without formalities of any kind. The seller would not even be required to make a report of it.

During the period of emergency conversion to war production, it was necessary at times to immobilize some stocks of scarce material. Now that the conversion program is well under way, the flow of these materials into the war effort can be greatly increased. Effect of the new regulation is to simplify the necessary procedures.

Reserved for specified purchasers is "War Material," consisting of some 150 materials listed in Schedule "A" to the Regulation. This material now may be sold to the

armed services, Maritime Commission, and certain other Government agencies. In addition, sales of War Material, as defined, may be made to persons who qualify by belonging to a class listed in Schedule "A" as being eligible to receive it.

In general, authorized sales, in addition to those to specified Government agencies, are "up-stream" sales, to distributor or manufacturers, or by manufacturing users to purchasers of raw materials. This serves to restore them to normal distribution channels. Applications for specific sales not covered by the general provisions of Regulation No. 13 should be filed on Form PD-470 at the nearest WPB field office.

Sales of less than \$100 may be made to anyone.

Materials not listed on Schedule "A," may be purchased by anyone authorized by existing regulations to receive and make specified uses of them. It is pointed out in the new regulation, however, that its terms do not exempt a purchaser from end-use and quota restrictions.

Schedule "A" sets forth the differing conditions under which metals, chemicals, alloys and other restricted commodities may be sold, and to whom.

For example, copper and brass mill and foundry products may be sold without preference ratings to purchasers who produce material in the form it was acquired by the holder; to producers permitted to buy for an authorized use, on orders bearing a preference rating of A-1-k or higher. They may be sold without preference ratings to a wholesale dealer in the material in the form held by the seller, if the dealer has been issued an allocation certificate or other authority to buy. They may not be sold to scrap dealers.

Patterns for the sale of other items of "War Material" are made clear in Schedule "A."

It was strongly emphasized that any purchaser acquiring War Materials as a result of a type of sale authorized by Regulation No. 13 must comply with all inventory, quota, and use restrictions imposed by all other orders and regulations.

The inventory and Requisitioning Branch of WPB will assist the movement of idle materials and production equipment into the war program, under the new regulation, and all queries should be addressed to its representative in the nearest WPB field office.

To assure success of the widespread effort, a new Field Service Section headed by Russell C. Duncan, Minneapolis, Minn., business man, is being set up.

Operating through staffs in all WPB Regional and many of the District Offices, the field service section will shortly be prepared to offer assistance to holders of any type of immobilized inventory, and will administer all technical aspects of campaigns inaugurated to purchase, requisition or otherwise expedite the flow of needed war material.

REPUTATION COMES TO THE FRONT

● Mueller Brass Co. valves, fittings and accessories have always had an enviable reputation for reliability, efficiency and long service life.

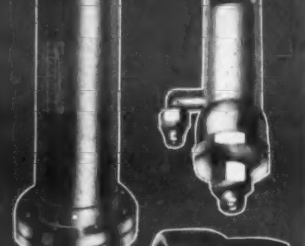
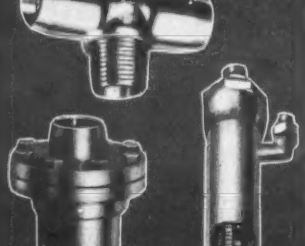
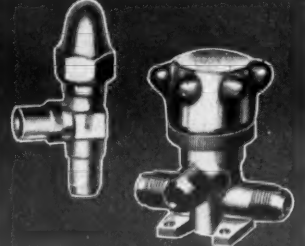
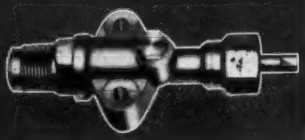
Since our ability to produce and supply these items is so necessarily restricted, due to our country's war effort, reputation is doubly important.

Although there are many refrigeration products that you will be unable to procure, you can, in many cases, devise ways and means of accomplishing the purpose through your own knowledge and skill. Conservation, too, is highly important and there are many items which can be repaired and used again and again.

Naturally, our armed forces are getting first call on our material resources and man power, but we can still supply many of the parts you may need—and to the extent that we are permitted, we shall continue to produce standard essentials for the Refrigeration Trade.

Mueller Brass Co. products have a built-in reputation for quality and long service life. If you have a problem, write us. We will do our utmost to help.

MUELLER BRASS CO.
PORT HURON, MICHIGAN



SAVE STEEL FOR VICTORY

RETURN EMPTY CYLINDERS

★ Steel is precious. Every pound counts in filling vital Victory needs. Little can be allocated now for new refrigerant cylinders. You can help Ansul and all manufacturers by returning empty cylinders at once... by keeping every cylinder at work. In doing this, you help the Nation, help yourself, and help your customers. Keep every cylinder on the job—all the time!

ANSUL

ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN

HELP YOUR JOBBER HELP US KEEP 'EM ROLLING!

What to Check When Electric Motor Does Not Start

Motor Troubles & Their Correction

Editor's Note: Following is part of a section on servicing motors, in a series of articles on motor construction and operation.

By R. A. Fuller,
Industrial Engineering Dept.,
General Electric Co.

Complaint - -

F. Bearing Runs Hot or Excessive Bearing Wear

7. Oil Leaking from Bearing

"Oil leaking from bearing" may occur at the drain plug or around the threads at the oil filler gauge. This can be corrected by putting litharge and glycerine, or other sealing compound, on the threads.

Motors on aircooled condensing units may develop a slight vacuum, due to the air flow, at the point where the shaft projects from the motor. This may, in infrequent cases, be sufficient to draw oil out of the bearing along the shaft. The high air flow may be sufficient to carry the oil away without leaving much evidence except that the oil disappears rapidly from the bearing. It may be possible to install a small sheet metal arrangement to direct some of the air to this point, and thus give positive air pressure there.

On some motors it is possible to fill the oil filler gauge so full of oil that, when the filler cap closes, it touches the oil. The oil then runs down the outside of the gauge and may continue to syphon out of the bearing. This trouble may be avoided by care in oiling, by keeping the outside of the gauge dry, by slightly increasing the clearance between the top edge of the gauge and the cap, when the cap is closed, or by installing a filler gauge with a cap that seals tightly against the top of the filler gauge.

8. Improper Grease

"Improper grease," in ball bearings, may lead to excessive wear, heat, and the development of gummy substances in the bearing. A good grade of grease should be used having the following characteristics:

a) Consistency a little stiffer than vaseline with minimum change in characteristics over the operating temperature range.

b) Melting point preferably above 275° F.

c) Freedom from separation of oil and soap under the operating and storage conditions that will be experienced.

d) Freedom from abrasive matter, acid, and alkali.

Motor dealers and other reputable suppliers of grease should be able to furnish satisfactory grease. Special grease may be required for ambient temperatures outside the limits of 32° to 140° F.

9. Too Much Grease

"Too much grease," in ball bear-

ings, causes them to run hot as an excess amount of energy is taken by the balls in plowing through the grease. If the construction is such that the bearing must be taken apart for greasing, the amount of grease should be limited so that the bearing and its housings are only partly filled when assembled. The majority of modern ball bearing motors are equipped for lubrication with a grease gun. The length of time between greasings depends upon operating conditions. It is necessary to keep the grease and the bearings free from dirt to avoid trouble. Complete information on greasing ball bearings is given in Chapter V.

10 Old Grease in Bearings

"Old grease in bearings," of ball bearing motors, may result in the formation of varnish-like deposits in the bearings with consequent heating and wear. Since the grease gun lubrication tends to purge the housing of old grease, the removal of all grease should be required infrequently.

Whenever the motor is disassembled for general cleaning the bearings and housings should be cleaned of old grease with carbon tetrachloride. If desired, ball bearings of horizontal shaft motors equipped with a pressure relief greasing system can be cleaned without disassembling the motor as follows:

a) Remove the pressure fitting and the relief plug.

b) Free both holes of any hardened grease.

c) With the motor running, pass flushing liquid through the housing until no grease comes out with the liquid. For flushing, use either hot mineral oil (not more than 100° C. or 212° F.) or carbon tetrachloride. Carbon tetrachloride is not inflammable and dissolves grease more rapidly than hot oil. As carbon tetrachloride has a solvent action on the insulation used in many windings, care should be used to prevent its getting on the windings. In case of accidental splashing onto the insulation, it should be sponged off promptly with a dry cloth. Vertical shaft motors should be placed in a horizontal position before cleaning the bearings in the above manner.

d) After flushing, replace the relief plug and continue cleaning by injecting and drawing off small amounts of liquid (by removing the relief plug) until the liquid drawn off is clear.

e) If carbon tetrachloride has been used for flushing, the housing should be rinsed free of it with a small amount of light mineral oil. The grease gun fitting is then replaced and the normal procedure of greasing followed.

ALCO Specify ALCO for Maximum Efficiency, Trouble-Free Performance
ALCO VALVE CO. ST. LOUIS, MO.

No Joints! No Leaks



This Rome Jointless Water Cooled Condenser is a typical example of Rome's ability to provide trouble free condensing equipment. Rome Water Cooled Condensers are used by many leading compressor manufacturers. Write for complete information.

ROME-TURNEY RADIATOR COMPANY

222 Canal Street
ROME, N. Y.

"Fix 'Em Up—Make 'Em Do" Is Slogan Of 170 Refrigeration Service Firms Cooperating in Philadelphia Plan

PHILADELPHIA—With all the mistakes and "bugs" of former city-wide electrical appliance service programs ironed out in advance, the Electrical Association of Philadelphia here has enlisted 170 appliance dealers in a plan which it is hoped by John A. Morrison, managing director, will keep every firm in the business for the remainder of the war.

Before setting up the plan, which includes appliance dealers, electrical dealers, furniture and department stores, radio shops, refrigeration service firms, and other appliance outlets, the Philadelphia association carefully studied the workings of similar plans in other cities.

Principal drawback of most of the plans was the lack of actual contact between dealers and appliance owners—although New Orleans Public Service Co., Inc., has led the way by taking its former staff of appliance salesmen and converting them into service "detectives" for the duration. Another "bug" was that many shops certified to do all repair work were unable to buy parts and machine equipment to back up their promotion.

Both of these are eliminated in the Philadelphia plan, whereby 170 dealers are using the program for two purposes—first, to develop new busi-

ness for the dealer by increasing store traffic while holding on to present customers, and second, campaigning to make material now in use suffice until the war's end with proper maintenance, repair, and electrical equipment.

The Association, into which all members have been taken, is using a heavy program of daily newspaper advertising, spot radio announcements, and car cards, all around the slogan "Fix 'Em Up—Make 'Em Do!" The same slogan is repeated on special window banners furnished every cooperating dealer whose shop will stand up to the specifications of the association.

"We're going to continue this plan even after the war," Mr. Morrison said. "So successful has it been in keeping discouraged dealers from closing up their shops."

Shops must have equipment for all electrical repairs, for cleaning rust and corrosion, for charging refrigerators, for turning down or re-finishing parts, and a complete stock of parts for all appliances. These are being furnished through distributor-members of the association as rapidly as possible; four distributors setting up parts-repair shops which will put discarded and "junk" parts back into re-usable shape.

The machine equipment problem

has been largely solved by "pooling" of equipment through several firms and even other businesses—for example, a plumbing shop with lathe, spray booth, etc., is now open at a flat rate to dealers without this equipment. Nine larger refrigeration service firms will help dealers to secure refrigerator repairs and turn them out.

A coin machine dealer with a complete electrical shop will repair motors, wind armatures, and make new controls.

Flat rates for all service have been standardized. "We can show that there are 400,000 refrigerators, 50,000 ranges, 26,000 water heaters, and 500,000 small appliances in Philadelphia which fall within the repair classification," Mr. Morrison added, "surely sufficient to keep 170 shops operating. We figure that there are actually five small appliances for each family, with one or two out of service in almost every home. We're going to make a drive of continuous proportions to bring in this business, help the dealer to canvass for it, and devote every step toward keeping his shop able to do the work."

Fisheries Truck Has 2-Compartment Cooling

CHICAGO—Booth Fisheries Corp.'s new mechanically refrigerated truck has Lindsay Structure construction, with two Dry-Zero insulated compartments carrying fresh and frozen foods.

Temperatures are maintained by hold-over plates with the condensing unit mounted in a separate, built-in division.

They're shooting trouble on the wing, these days...



Capture moisture before it's had a chance to do its dirty work; that's the policy of the smart serviceman. In these days of shortages of replacement parts, he doesn't dare risk the possibility of serious injury to refrigerator systems. Refrigeration is playing an important part in this war.

Inserting a cartridge charged with Alorco Activated* Alumina in the refrigeration system removes every trace of moisture (to dew points of -110° F.). Acid and sludge are removed. Valve freeze-ups are avoided, wear is greatly reduced, and corrosion is prevented.

Dehydrators and cartridges charged with Alorco Activated Alumina are available through your supply houses. Ask for the genuine and be assured of maximum drying and purifying efficiency. ALUMINUM COMPANY OF AMERICA (Sales Agent for ALUMINUM ORE COMPANY) 1908 Gulf Building, Pittsburgh, Pennsylvania.

These manufacturers supply cartridges and dehydrators charged with Activated Alumina:
American Injector Company... Fedders Mfg. Company... Henry Valve Company... Imperial Brass Mfg. Company... Kerotest Mfg. Company... McIntire Connector Company... Mueller Brass Company... Cyrus Shank Company

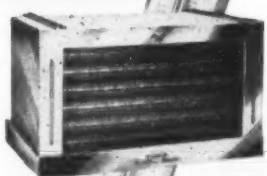
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Mannings, U.S.A.

REFRIGERATION
In America

Out of the Past—

Waterpower Used to Furnish Current For Lockers Installed in Grist Mill

WAYNESBORO, Pa.—In the early 'Forties, a hundred years ago, a Pennsylvania lad of 17 started out to learn the trade of millwright. In those days there were in Franklin County, where he lived, about 75 grist mills, all of which were driven by water power. Upon completion of his apprenticeship, the young man found all the work he could do building new mills and doing repair work in southern Pennsylvania, Maryland, and the Valley of Virginia. He soon noticed that, as the forests were cleared, the flow of water in the streams used by the mills became less and less dependable.

And so in 1850 George Frick began building steam engines, to serve as auxiliary power for grist mills in dry weather. One of the engines constructed by him about 1856 has been preserved and is now in the Ford Museum at Dearborn. His line of engines was later broadened to include the Corliss type. In 1882 the first Frick refrigerating machine was made.

LOCATED ON GOOD STREAM

As the years went by, the local grist mills gradually lost their trade. Today those which are still standing are generally operated so irregularly that it is difficult to make them show a profit, even though the old-fashioned water wheels and wooden gearing have been replaced with turbines and gears of iron.

Typical of these mills is the one standing on Big Pipe Creek, two and a half miles southeast of Taneytown, Md. The stream is larger than most others in the section, and though the fall is only six feet, the site has been used for water power since before the War Between the States. The present Otterdale Mill was built in 1865, and has served farmers, dairymen, and bakeries within a wide radius ever since. Its hard winter wheat flour known as Maryland's Pride, and its White Rose soft wheat flour still enjoy a regular demand. Otterdale is one of the

few mills now producing pure buckwheat flour in that area. Three turbine wheels produce a total of approximately 42 hp.

Two years ago patrons from Taneytown, Keymar, Uniontown, and Union Bridge began inquiring about frozen food locker service. Taking advantage of the opportunity, the Otterdale Milling Co. built a well-insulated locker room, measuring 40 ft. long by 14 ft. wide, 10 ft. high. This accommodates 223 Knickerbocker Lockers including two units of the new "overflow" type, as well as a quick freezing room, 4 ft. square.

FREEZER EQUIPMENT

The freezer is fitted with shelf expansion coils, while two layers of ceiling coils are used in the main room. There is a chill room, 10 ft. by 12 ft. by 10 ft. high, which has proved very useful in cooling meat during the summer months as well as for aging purposes. The rooms are lined with Insulite, behind which are double layers of damp-proof paper and eight inches of spun-glass insulation.

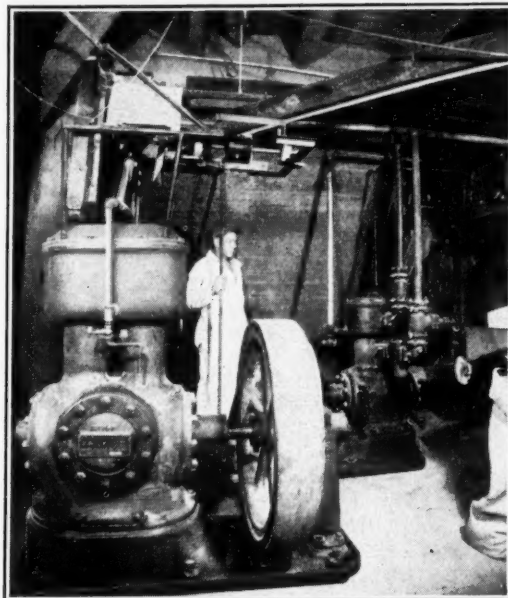
A small ice cream churn and cabinet are installed in a separate room as an additional service; patrons freeze as much as 50 gallons of ice cream per day. The lockers measure 18 by 30 in. deep; the room is held at -10 to -12° F.

OPERATED BY MILLWRIGHTS

Frank L. Smith and his son Harold, who own and operate the business, are skilled millwrights and machinists, just as George Frick was. In addition to the mill and locker plant, they run a 47-acre farm. As their home is just across the road from the mill, they are able to give day and night service to the trade. They know the problems of their customers from having to deal with the same problems themselves.

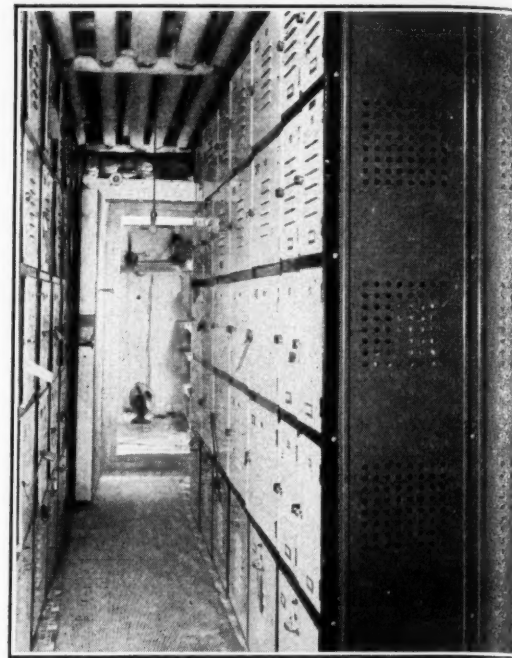
Proper temperatures are provided for the various services by

These Machines Cool These Lockers



Harold Smith looks over the two Frick refrigerating machines which maintain low temperatures at the Otterdale locker plant.

Looking down one of the aisles in the locker room. The quick-freezing room appears beyond.



Frick refrigeration. Two used compressors, rebuilt by Harold Smith, are driven by belts from the water wheels. One of these is a 5 by 5 inch machine and the other a 4 by 4; both have two ammonia cylinders. A Dodge automobile engine is installed beneath the jackshaft which transmits the power to the compressors, as insurance against low water; it is essential that uniform temperatures be maintained in the locker room.

SUBSTITUTE CONDENSER

As the creek water tended to foul the circulating pump and the tubes of the double-pipe condenser, and as this equipment and the machine jackets had to be carefully drained when shutting down, in freezing weather, Mr. Smith replaced the condenser with some coils which he submerged in the water of the turbine pit. He placed the receiver under the condenser coil.

To cool the jacket water he installed radiators, fans, and pumps taken from automobiles, above the machines, and arranged the belts to drive from the main jackshaft. Antifreeze compound is used in the jacket water.

PLANT COST \$5,000

The total cost of the locker plant and refrigerating equipment was around \$5,000. The income from locker rentals and other services has been \$2,000 a year. All the lockers are in constant use and Mr. Smith would add 400 more at once if they could be obtained.

Thus the grist mills, a century after they taught millwrighting to George Frick, gain a new lease on life by using the refrigerating equipment he developed.

A number of other water mill properties have been successfully made into refrigerated apple storages, and report overall costs as low as 10 cents per bushel per season. It has been found that almost any kind of insulation, such as buckwheat hulls, mill shavings, dry sawdust, granulated cork, Celotex, or Insulite, serves satisfactorily for holding fruit through the storage season. Locker plants require heavier insulation, which must be sealed against moisture.

300 Locker Plant Offers Special Customer Services

PORT ORCHARD, Wash.—Carl Ainsworth, grocery store and meat market operator here, has recently completed a 300-unit locker plant near the center of the city to serve residents who will not need automobiles to reach it. Frozen Food Lockers, Inc., as the new plant is entitled, features one-price locker rentals and has a staff of locker boys who make it unnecessary for women to enter the refrigerated room.

Bothell Named President By Wisconsin Locker Men

FOND DU LAC, Wis.—L. E. Bothell, Clintonville, was elected president of the Wisconsin Frozen Food Locker Association at the annual two-day convention here recently.

N. C. Rippen of Madison was named vice president and Alfred E. Corey, Fort Atkinson, secretary-treasurer.

Speakers included Neal Banter, who discussed the packaging of frozen foods; Prof. B. A. Beach, Prof. Marvin A. Schaars, R. J. Crosby, and Prof. I. F. Hall, all of the University of Wisconsin; Wayne Carver, editor, "The Locker Patron"; and Frederic Meisnest of the U. S. department of interior, who spoke on "Fish in the Locker Plants."

Film Stars Finance New Hollywood Plant

HOLLYWOOD, Calif.—A 1,350 locker locker plant in West Los Angeles is under completion by Polar-Pantry, Inc., a new frozen foods corporation headed by several notables in the Hollywood film colony.

The stars include Lloyd Nolan, Nolan, Fred MacMurray, Johnny Weissmuller, Frank Borzage, John Wayne, Red Skelton, Harriet Parsons, B. C. Roos, Ward Bond, Patrick Knowles, and Ian Hunter.

New Locker Plant Located For Customer Convenience

DAVENPORT, Iowa—Martin C. Carlsen, wholesale meat dealer here, has completed a new 250-unit locker plant at Seventh and Division Streets here, a location that offers convenient bus and streetcar transportation to solve tire problems for customers.

Meat Market Adds Locker Plant for Customer's Use

SACRAMENTO, Calif.—Herman Davis, proprietor of the South Side Market and Davis Meat Co. here has completed and opened a 280 locker locker plant at 9th and S streets here. The new plant will operate contiguously with Davis Meat Co., selling and processing meat at wholesale rates to regular market customers.

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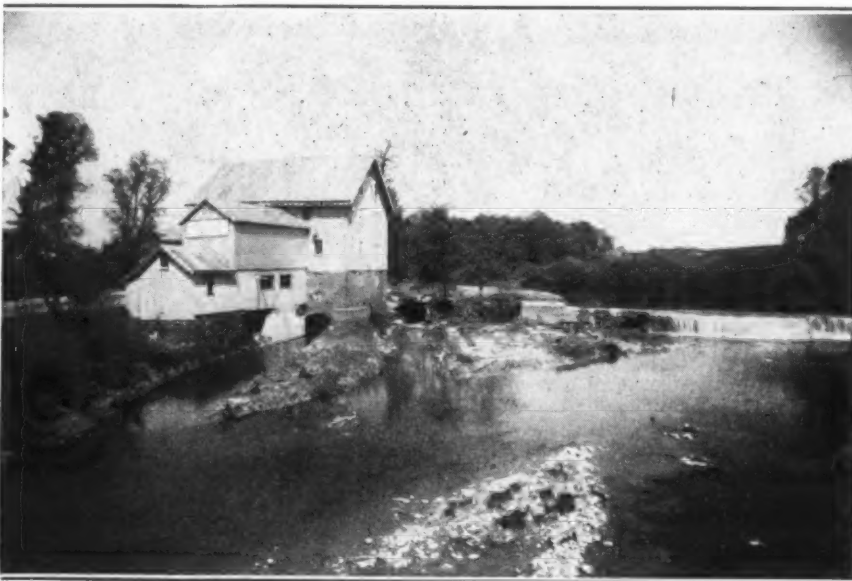
THE FAITH of our forefathers in this land of ours gave them the courage to endure the hardships that confronted them. Today we are faced with a threat to America and again its people are demonstrating their faith in our country's future, by self denial of those things that have contributed to their comfort and high standard of living. Sometimes, this faith is shaken by added restrictions placed upon our families and businesses but we realize that these regulations are necessary if Victory is to be ours. Yes, your business and our business is greatly affected today and that is why normal business relations cannot be carried on between the Tecumseh Products Company and its customers.

The refrigeration industry has two patriotic services to perform: to supply the essential, military, civilian and industrial needs for refrigeration and to keep existing refrigeration units operating. Only by giving our fullest cooperation can the refrigeration industry help to win this War and return to us our normal way of life.

TECUMSEH PRODUCTS CO. TECUMSEH MICHIGAN



Waterpower for Refrigeration



Water power from the Big Pipe Creek is used by the Otterdale Milling Co., near Taneytown, Md., for operating refrigerated food locker storage.

Installing Foamglas Insulation



This shows how a workman erects Armstrong's new Foamglas insulation in a refrigerated room.

Cellular Glass for Use as Insulation Placed on Market by Armstrong

LANCASTER, Pa.—A unique cellular glass—made up of thousands of tiny airtight cells and weighing only one fifteenth as much as ordinary glass—has been introduced by the Armstrong Cork Co. as a permanent addition to its line of low temperature insulating materials.

This new noncritical domestic product, which presents glass in a form never before manufactured, will be known as Armstrong's Foamglas. It offers insulation for cold storage rooms in meat packing plants, chemical and food processing factories, refineries, dairy and ice cream plants, breweries, frozen food locker plants, and in various other low temperature fields, Armstrong officials declare.

The cellular structure of Foamglas results in the formation of a

slight vacuum within the cells that provides an insulating effect. Armstrong engineers declare that Foamglas offers a positive solution to the moisture problem in low temperature insulation work. Atmospheric pressure tends to force moisture-bearing air from the hot to the cold side of insulated construction. When the dew point is reached, moisture is deposited within and on the surface of most insulations, resulting in a loss of insulating efficiency. Since the structure of Foamglas absolutely bars the passage of vapor, top efficiency is maintained throughout the life of the construction, say Armstrong men.

The new insulation is fireproof and waterproof. It is impervious to water, rot, mold, or decay. Since it is manufactured of an inorganic material, it is also verminproof and odorless.

Foamglas is glass which can be sawed and worked with ordinary tools. The material can be shaped for installing on T-irons for insulating ceilings by merely rubbing it against the T-iron until a perfect fit is attained. It can be sawed much easier than ordinary wood.

The insulation is manufactured by firing ordinary glass which has been mixed with a small quantity of pure carbon. At the proper temperature, the glass softens and the carbon turns into a gas which then acts upon the molten glass in such a manner that a "cellulated" product is obtained. By proper selection of the glass batch, the type of carbon, and temperature control, it is possible to obtain rigid vitreous slabs of Foamglas in which the cells are uniformly small in size and entirely sealed one from another.

It is made by the Pittsburgh-Corning Corp. and is marketed exclusively in the low temperature insulation field by the Armstrong Cork Co. It is supplied in one easily erected board size 12 in. x 18 in. in standard thickness of 2, 3, 4½, and 6 in.

Movable Lockers Used In New Kansas Plant

MULVANE, Kan.—A new 300-unit locker plant has been constructed here by M. Rhodes, operator of the Rhodes Grocery Store. The new plant will feature movable lockers, eliminating the need for women patrons to enter the refrigerated rooms.

Wisconsin Plant Forced To Expand Facilities

CHIPPEWA FALLS, Wis.—The local locker plant, operated by S. B. Good, has been enlarged, now containing 115 lockers. This is in line with the expansions found necessary in other frozen food plants, Mr. Good says, as the War appears to have made more and more people frozen food conscious.

Grocery Stores in Rural Areas Good Locker Prospects

MEMPHIS, Tenn.—Small town and rural grocery stores are not to be ignored as a potential market for refrigerator locker plants, asserts Howard Barlow, commercial refrigeration manager for McGregor's, Inc., Frigidaire distributor, who believes that locker plant dealers will do well to concentrate on grocery stores in smaller cities and rural communities as the best market during the next few years.

To help the locker plant owner sell his trade, McGregor's stages a grand opening party for each plant owner the day the locker plant formally opens for business. The distributor also gives its customers' locker plant business an initial boost by direct mail and newspaper advertising.

Although only in the locker plant business for a few years, McGregor's has installed 44 plants in Tennessee, Arkansas, and Mississippi. After installing some of the largest plants operating in the South, a study of the situation convinced Mr. Barlow two years ago to switch all promotion to smaller cities and to install locker plants only for contiguous operation with small-town or rural grocery stores.

Refrigerator locker plant dealers will find the successful grocer one of the best possible financial risks, as the plant will enjoy the patronage of the store's old customers as well as many new ones, Mr. Barlow opines.

"If the grocer gets 75 customers from the regular clientele of the store for his locker plant, he will usually get 75 more from the outside, principally people who have never purchased from him before. He not only makes a locker profit, but an additional grocery profit which goes a long way toward depreciating the original cost of the plant. The commercial refrigeration salesman is wise to emphasize this advantage of the plant to grocers, helping them sell both the plant and their store to the public," Mr. Barlow pointed out.

A point in favor of locker plants to grocery stores is that they can be installed without the additional expense of a new building, being installed in the rear of the store with only a little additional building. McGregor's believes smaller plants are to be preferred, as the increased number of plant installations would cause a loss to grocers with too many lockers. Most of their plants range from 150 to 250 lockers, few over 300.

"Another point to consider," declared Mr. Barlow, "is the convenience of the grocery store location of the locker plant for the customer. Everyone prefers to buy all his food in the same place, and if he is economizing by storing meats, it is logical that he will want to pick up his meat and buy groceries at one stop."

McGregor's has never had to repossess a locker plant installation, nor use a collection agent for payments.

"In every case our grocer customers report better operating statements as a result of adding the locker plant than with just the individual grocery business," Mr. Barlow explained. "Each one of our 44 plants has shown two separate profit increases for the owner."

Typical of this statement is the Moody Grocery store of Brownsville, Tenn., a large rural store which has experienced 33½% increase in groceries as well as greater profits from a 300-unit locker plant built in the rear of the store. This split business, which appeals to both rural and small town residents, is the most practical improvement a grocery store can make, according to McGregor's.

Montana Locker Operator Doubles Size of Plant

GREAT FALLS, Mont.—A 50% increase in the capacity of the locker plant at the Buttrey Food Store here is announced by Claude Pelton, operator. The expansion increases the total number of lockers in this plant to nearly 800.

At the opening of the enlarged locker plant, coffee and free cookies were given to visitors.

Auto Dealer Converts Showroom Into Modern Locker Plant with 500 Units



ST. LOUIS—A new 500-unit refrigerated locker plant which Merry Motor Co., Packard automobile dealer here recently completed at 5800 Delmar Boulevard, is now in operation.

The new plant, constructed by owner H. C. Merry has a practical solution to operating the building with no new automobiles to sell, is conveniently located near the center of the city, where customers can use busses and street cars instead of their automobiles, and thus eliminate the customer-transportation problem entirely.

The exterior of the building has

been covered in natural-color knotty pine, also used for interior walls in the processing room and show room behind the wide display windows.

Titled "Delmar Food Lockers" the new plant rented more than 300 of its lockers before completion, attracting most of them through leaving the showroom brilliantly lighted all night with fluorescent illumination, whereby passing motorists can see butchers preparing meats on stainless, gleaming porcelain equipment behind the glass.

H. C. Merry, proprietor, intends to keep the windows lighted all night through the summer months.



George Mason, a Virginia Statesman, in 1776 drew up the Virginia Constitution and famous Bill of Rights, a radically democratic document which had great influence on American political institutions. He wrote: "If I can... live to see free governments established in our western world... I shall die satisfied."

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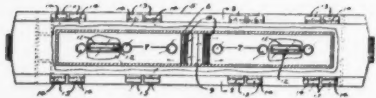
Mills Condensing Units
By Mills Novelty Company
4100 Fullerton Ave., Chicago, Ill.

★★★★★★★★

PATENTS

Weeks of June 16 & 23

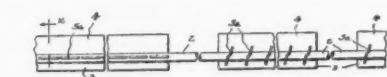
2,286,252. AIR CONDITIONING SYSTEM UTILIZING REFRIGERATION. Carl O. Bergstrom, Boston, Mass., assignor to E. F. Sturtevant Co., Boston, Mass. Original application July 13, 1939. Serial No. 284,262, now Patent No. 2,258,565, dated Oct. 7, 1941. Divided and this application May 8, 1940. Serial No. 333,918. 3 Claims. (Cl. 98-10.)



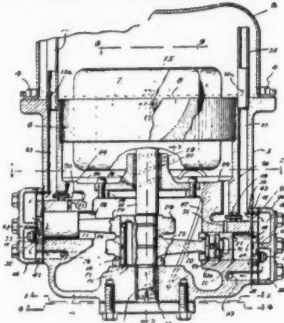
1. An air cooling system for a passenger vehicle comprising a longitudinal duct overhead the passenger space, means for admitting outdoor air at a plurality of points into said duct, means for admitting air from the passenger space into said duct adjacent the longitudinal center thereof, said duct having a plurality of longitudinally spaced apertures in its lower wall, and a plurality of fans communicating with said duct through said apertures and with the passenger space for drawing outdoor air through said first mentioned means and recirculating air through said second mentioned means and for discharging it into the passenger space.

2,286,271. HEAT TRANSFER DEVICE. William W. Higham, Detroit, Mich., assignor to Universal Cooler Corp., Detroit, Mich., a corporation of Michigan. Application March 7, 1940. Serial No. 322,689. 11 Claims. (Cl. 257-149.)

1. A heat transfer device comprising, a length of metal stock having a tubular



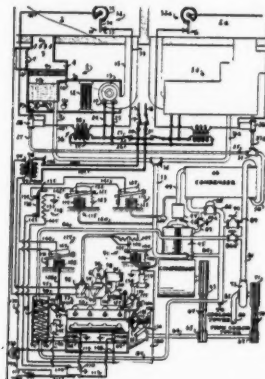
2,286,272. SEALED COMPRESSOR. William W. Higham, Detroit, Mich., assignor to Universal Cooler Corp., Detroit, Mich., a corporation of Michigan. Application April 10, 1940. Serial No. 328,849. 13 Claims. (Cl. 230-206.)



1. In a refrigerant compressor of the sealed type, means forming a sealed chamber, a substantially vertically disposed crank-shaft in the chamber, a substantially horizontally disposed cylinder with a piston therein, a connecting rod substantially horizontally disposed

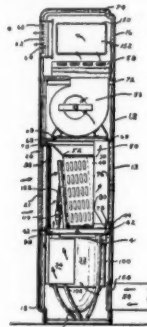
and pivotally connecting the crank and piston, means supporting the end of the connecting rod which surrounds the crank for taking the vertical load thereof, and a counter-balancing weight on the connecting rod opposite the part which extends to the piston for placing the center of gravity of the connecting rod within the confines of the supporting means whereby the connecting rod is gravitationally stable to thereby eliminate gravity thrust on the piston.

2,286,316. AIR CONDITIONING. Edwin Snook, Amarillo, Tex., assignor to Minneapolis-Honeywell Regulator Co., a corporation of Delaware. Application June 26, 1937. Serial No. 150,550. 23 Claims. (Cl. 62-6.)



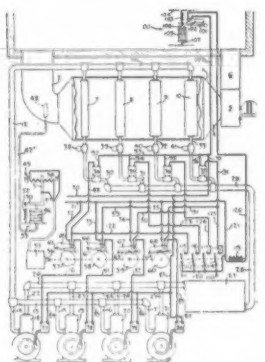
10. In an air conditioning system, in combination, a cooling coil in heat exchange relationship with the air to be conditioned, a compressor connected to said cooling coil for withdrawing evaporated refrigerant therefrom and for compressing such evaporated refrigerant, a condenser for condensing the compressed refrigerant, pumping means for supplying a cooling medium to said condenser, a variable speed prime mover connected to both said compressor and said pumping means to thereby cause said compressor and pumping means to operate at speeds determined by the speed of the prime mover, and control means responsive to a load condition on the system for varying the speed of the prime mover in accordance with changes in load.

2,286,491. REFRIGERATING APPARATUS. Andrew A. Kucher, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application March 30, 1940. Serial No. 326,853. 4 Claims. (Cl. 183-32.)



2. In a portable air conditioning unit, a cabinet forming an air flow passage, a self-contained volatile refrigerant system removably supported within said cabinet directly in the air flow passage, a blower and blower motor permanently mounted within said cabinet, an opening in one wall of said cabinet through which said volatile refrigerant system may be inserted into said cabinet and withdrawn from said cabinet as a self-contained unit, a closure member for said opening, and removable filter elements carried by said closure member.

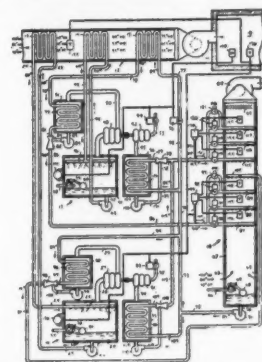
2,286,538. AIR CONDITIONING SYSTEM. George D. Guler, Philadelphia, Pa., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Feb. 6, 1937. Serial No. 124,459. 19 Claims. (Cl. 62-6.)



1. In an air conditioning system, in combination, a conditioning chamber, means connecting said conditioning chamber with a space to be conditioned, cooling means in said chamber, means for supplying cooling fluid to said cooling means, control means for gradually varying the flow of cooling fluid through said cooling means, control means for gradually varying the operation of said cooling fluid supplying means, and temperature and humidity responsive means for controlling said control means, one of said responsive means being arranged to control gradually both of said control means, and the other of said responsive means being arranged to cooperate in controlling one only of said control means.

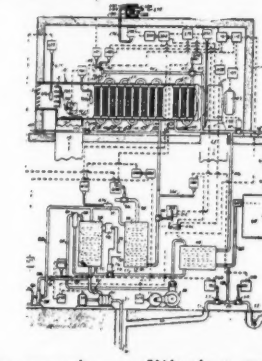
2,286,605. AIR CONDITIONING SYSTEM. Robert B. P. Crawford, Miami, Fla. Application March 3, 1939. Serial No. 259,561. 14 Claims. (Cl. 62-6.)

1. In an air conditioning system for conditioning the air of an enclosure, the combination of, cooling means and reheating means for conditioning the air, a refrigerating apparatus for supplying a cooling fluid to the cooling means for cooling the air and including a condenser for dissipating the heat absorbed, a cool-



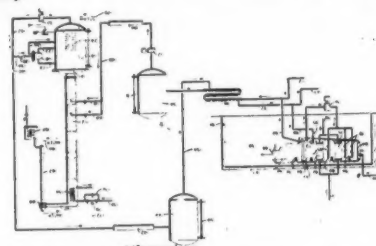
ing tower, means for supplying a reheating fluid from the cooling tower to the reheating means to dissipate heat to the air whereby the air is reheated and the reheating fluid is cooled, means for supplying the cooled reheating fluid from the reheating means to the condenser of the refrigerating apparatus to increase the heat dissipating effect of the condenser, and means for returning the reheating fluid from the condenser to the cooling tower to be cooled thereby.

2,286,604. AIR CONDITIONING SYSTEM. Robert B. P. Crawford, Miami, Fla., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application June 25, 1938. Serial No. 215,805. 30 Claims. (Cl. 257-3.)



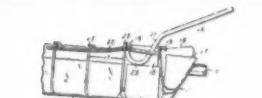
20. In an air conditioning system, a conditioning chamber, means for passing air through said conditioning chamber, a heat exchanger in said conditioning chamber for cooling and dehumidifying the air, a supply of fluid for the heat exchanger means for reducing the temperature of said fluid before it passes to the heat exchanger including a refrigeration system having a condenser, a reheater for reheating the air passing from the heat exchanger, means for supplying the fluid leaving said heat exchanger to said reheater, and means for then passing the fluid leaving the reheater through the condenser, thereby utilizing the cooling effect of the air being reheated for partially cooling said condenser.

2,286,618. REFRIGERATING PROCESS. Nicolai H. Miller, Jr., Bronxville, N. Y., assignor, by mesne assignments, to The Texas Co., a corporation of Delaware. Application Nov. 3, 1939. Serial No. 302,660. 1 Claim. (Cl. 183-120.)



A cyclic process for cooling and dehumidifying a gas adapted to produce a cold dehumidified gas for direct contact frost-free refrigeration at temperatures at least as low as -30° F., which comprises contacting said gas with a spray of aqueous ethylene glycol solution, and with cooling surfaces maintained at a temperature below -30° F. and covered with a film of said aqueous ethylene glycol solution resulting from the action of said spray, causing the aqueous ethylene glycol solution flowing from said cooling surfaces to be recycled to said spray, maintaining the concentration of said aqueous ethylene glycol solution at said spray within the range of 46% to 86% by volume, and sufficiently above 46% and below 86% concentration to maintain said solution as a sprayable liquid free from a solid phase, by subjecting to rectification at least a portion of the recycle aqueous ethylene glycol solution flowing from said cooling surfaces, while controlling the temperature of the vapor removed.

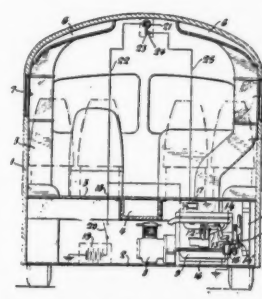
2,286,693. FREEZING TRAY. Carl H. Steenstrup, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Original application June 8, 1937. Serial No. 147,056. Divided and this application March 21, 1940. Serial No. 325,141. 7 Claims. (Cl. 62-108.5.)



1. A removable partition assembly for freezing trays comprising a plurality of similar partition elements adapted to form walls of a plurality of ice block compartments, each of said elements having an opening therein in its upper portion, and means including an elongated connector passing through the opening in each of said elements for retaining said elements in assembled relation, said means providing for independent relative translatory movements of said partition elements in the planes of their surfaces, to facilitate the release of ice blocks from compartments formed by said partition elements.

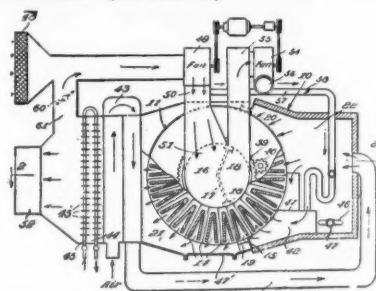
2,286,758. AIR CONDITIONING SYSTEM. Laurence A. Nelson, Birmingham, Mich., assignor to Yellow Truck & Coach Mfg. Co., Pontiac, Mich., a corporation

of Maine. Application March 25, 1939. Serial No. 264,050. 5 Claims. (Cl. 62-117.)



3. For use with a continuously operating cooling mechanism having a variable rate of speed dependent on heat rejection requirements in the compartment to be cooled, control apparatus for said mechanism including an engine fuel throttle movable between open and idle positions, spring means biasing the throttle toward one of said positions, and a pair of individually separate throttle operating devices each active independently of the other on the throttle for moving the same toward its other position in opposition to the biasing force of said spring means, one of said devices being responsive solely to compartment inside temperature and the other of said devices being governed in its response by engine operation, one of said devices serving normally and during the time the other device is inactive, to control throttle setting throughout the range between its open and idle positions and the other device serving in action to cancel completely the throttle control by the normal control device and positively to set the throttle in one of said positions.

2,286,920. AIR CONDITIONING SYSTEM. Ernest B. Miller, Annapolis, Md., assignor to E. B. Miller Engineering Co., Inc., a corporation of Maryland. Application Dec. 21, 1939. Serial No. 310,453. 5 Claims. (Cl. 183-4.)



1. In an air conditioning system, a casing, an annular cage mounted in said casing for rotation about a horizontal axis and having a plurality of radially arranged partitions forming a series of open ended compartments therein, a previous layer of solid adsorbent material in each of said compartments, stationary means engaging the inner and outer peripheries of said annular cage and cooperating with the partitions of said cage to divide said casing into a dehydrating chamber and a reactivating chamber, means for delivering air to be dehydrated through the compartments while traveling through the dehydrating chamber to thereby cause the adsorbent material to extract moisture from the air by adsorption, means for passing a gaseous medium in heat exchanging relationship with the dehydrated air to effect preheating thereof, means for further heating said gaseous medium to a relatively high temperature, means for delivering said gaseous medium through the compartments while traveling through the reactivating chamber, and means to circulate a cooling fluid in direct contact with the dehydrated air before discharge from the dehydrating chamber to cool the same.

(Concluded on Page 19, Column 1)

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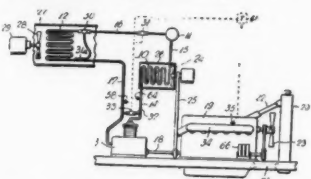
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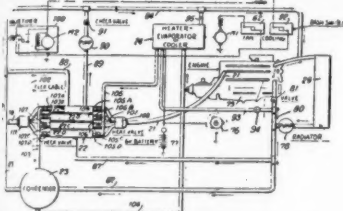
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• Minimum Frost Service
• Power Models in Stock

(Continued from Page 18, Column 5)
2,286,961. AIR CONDITIONING APPARATUS. Lars Hanson, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application June 4, 1938. Serial No. 211,761. 2 Claims. (Cl. 62-4.)



2. In an apparatus of the character described including a condenser, an evaporator and a compressor driven by an internal combustion engine having a starting motor associated therewith, the combination of means for bypassing the inlet of said compressor fluid discharged from the discharge side of said compressor, means for rendering operative said last-mentioned means whenever said starting motor is energized, and means for rendering operative said bypass means whenever the pressure of refrigerant delivered from said evaporator falls below a predetermined point, said bypass means normally being inoperative, whereby bypassing of refrigerant discharged from said compressor to the inlet thereof is prevented except when said starting motor is energized or the pressure of refrigerant delivered from said evaporator falls below a predetermined point.

2,287,172. METHOD OF AND APPARATUS FOR REFRIGERATION AND AIR CONDITIONING. Laurence S. Harrison, Bronxville, and Allen A. Canton, New York, N. Y., and Alfred G. Kay, Palm Beach, Fla., assignors, by mesne assignments, to said Laurence S. Harrison. Application Jan. 10, 1939. Serial No. 250,142. 32 Claims. (Cl. 62-5.)



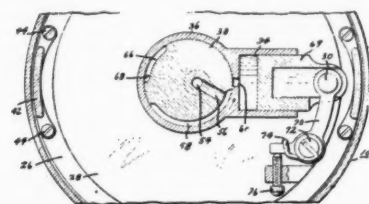
1. An air conditioning system for automotive vehicles driven by internal combustion engines, comprising a combination, a generator-adsorber provided with a plurality of generator-adsorber units containing a refrigerant adsorbent material, means for selectively passing hot exhaust gases from the motor to said units to drive the refrigerant out of said adsorbent material, a condenser receiving said refrigerant from successive units, means for selectively passing engine cooling fluid to said units which are not being heated to cause the material to adsorb refrigerant, an evaporator receiving refrigerant from said condenser, and means for supplying refrigerant from said evaporator to said units.

11. The method of producing refrigeration from the waste heat of combustion of an internal combustion engine, and comprises: admitting to portions of a non-liquid porous refrigerant adsorbent material, which is stable and effective at the temperatures of engine cooling fluid and engine exhaust gases, a refrigerating fluid which is capable of being adsorbed in substantial quantities by the adsorbent material at the temperatures approximating the temperatures of engine exhaust gases; circulating engine cooling fluid at times in good heat exchanging relation to but not in contact with the adsorbent material for causing the adsorbent action; and alternatively circulating engine exhaust gases in good heat exchanging relation to but not in contact with the material for heating the material at times to drive off the adsorbed refrigerating fluid.

2,287,202. REFRIGERATING APPARATUS. Harry F. Smith, Lexington, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Oct. 26, 1938. Serial No. 237,000. 2 Claims. (Cl. 230-177.)

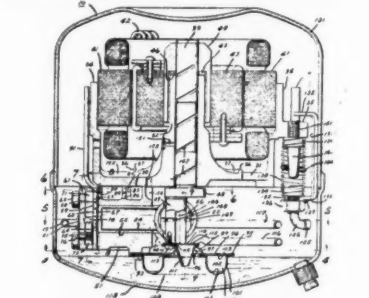
1. A pump including a cylinder, a piston extending into the cylinder, an inlet for said cylinder, an outlet for said

cylinder, a connection to said piston capable of yielding under abnormal compression within said pumping cylinder



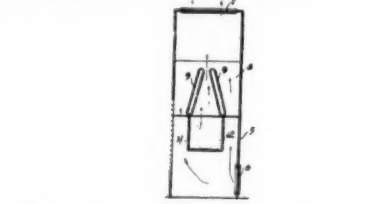
comprising an arm connected to said piston and yielding means for permitting movement of said arm to avert greater compression in the pump.

2,287,203. REFRIGERATING APPARATUS. Rolf M. Smith, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Sept. 29, 1939. Serial No. 297,148. 8 Claims. (Cl. 230-232.)



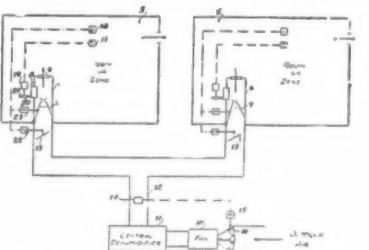
1. A sealed unit comprising, a casing having a motor and a compressor directly connected to said motor disposed therein and being resiliently supported therefrom, said casing being under compressor suction pressure, refrigerant conveying means having a connection with said casing, said means including a device carried by said motor-compressor for receiving and muffling refrigerant discharged from said compressor, said means also including a pipe having an end secured to said device and having its other end secured to said casing for directing refrigerant discharged from said compressor to the exterior of said unit, said pipe being in the form of a coil and having a convolution thereof extending around said compressor to provide the pipe with a resilient portion intermediate its secured ends, and means abutting said compressor and applying force to said resilient intermediate convolution portion of the pipe coil at a plurality of widely spaced apart points for preventing same from generating audible sounds.

2,287,267. HEAT EXCHANGER. Robert T. Palmer, Sharon, Mass., assignor to B. F. Sturtevant Co., Boston, Mass. Application May 18, 1940. Serial No. 335,966. 9 Claims. (Cl. 257-137.)



1. In a heat exchange unit having an outlet, a primary air inlet, a recirculated air inlet and an ejector for inducing the flow of air through said recirculated air inlet, with air from said primary air inlet for discharge through said outlet, heat exchange surfaces forming a Venturi air passage in the path of the air discharged by said ejector.

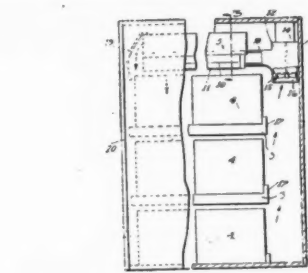
2,287,268. PSYCHROMETRICALLY CONTROLLED AIR COOLING SYSTEM. Robert T. Palmer, Sharon, Mass., assignor to B. F. Sturtevant Co., Boston, Mass. Application May 18, 1940. Serial No. 335,967. 4 Claims. (Cl. 236-44.)



4. An air conditioning system comprising a central source for supplying conditioned air under pressure, a local recirculation unit having an air outlet and a recirculated air inlet in the conditioned space, an ejector in said unit connected to said source for inducing the flow of recirculated air into said inlet through the flow of the conditioned air from said source, and for discharging the mixed air through said outlet, means including local psychrometrically responsive means for varying the volume of air supplied from said source to said ejector, and means for so adjusting said ejector that upon an increase in the volume of conditioned air thereto, its air inducing action is decreased and upon a decrease in the volume of conditioned air thereto, its air inducing action is increased whereby at all times a substantially constant mixed air volume is supplied through said outlet.

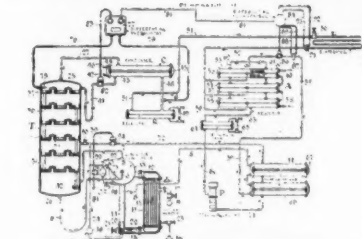
2,287,313. REFRIGERATING APPARATUS. Milton C. Knight, Worcester, Mass. Application Nov. 9, 1940. Serial No. 365,023. 6 Claims. (Cl. 62-72.)

1. Refrigerating apparatus comprising, in combination, a casing having walls of thermal insulating material, and providing a chamber having longitudinally extending racks for supporting rows of carriers for perishable food, with said carriers spaced from each other and from the side walls of said chamber, means for supporting a container for a coolant in the upper portion of said chamber above said carriers, and means at one end of said casing for directing a current of air first along the bottom of said coolant container in an unobstructed path toward the opposite end of said



casing, and then downwardly around said food carriers.

2,287,441. ABSORPTION REFRIGERATION SYSTEM. Walter R. McGinnis, York, Pa., assignor to York Ice Machinery Corp., York, Pa., a corporation of Delaware. Application June 13, 1939. Serial No. 278,949. 13 Claims. (Cl. 62-5.)

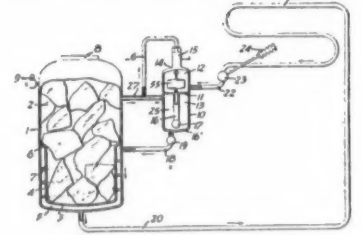


8. In a refrigerating system of the absorption type, comprising a generator, a condenser, an absorber, an evaporator, and means for conveying refrigerant from the generator to the evaporator; a bubble tower interposed between the generator and condenser and having a plurality of bubble plates, said tower serving to rectify and to cool the ammonia vapors passing upwardly there-through; means for supplying substantially anhydrous ammonia liquid from said condenser to said bubble tower adjacent the top thereof to flood certain of the plates with liquid ammonia; means for returning one portion of the strong aqua from the absorber to the generator; means for returning another portion of strong aqua to an intermediate point in said bubble tower; means for controlling the supply of said anhydrous ammonia to said tower in accordance with the temperature differential between the liquid ammonia flowing from the condenser and the ammonia vapor leaving the tower; and means for maintaining a predetermined ratio between the weak aqua and the ammonia vapor flowing to the absorber.

2,287,446. REFRIGERATOR LATCH MECHANISM. Stuart W. Parsons, New Britain, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut. Application July 30, 1940. Serial No. 348,462. 2 Claims. (Cl. 292-167.)

2. A refrigerator latch including a bolt supported on the interior of a door, a handle operably mounted on the exterior of the door for pivotal movement in a plane at right angles to said door, means for operatively connecting the handle to the bolt and including a bushing having an airtight fitting in an aperture in the door, a shaft extending through said bushing and rotatably journaled therein, the tolerance between said bushing and shaft being such as to permit rotation of the shaft while reducing air flow therethrough to a minimum, an operable connection between the handle and the rock shaft exterior of the door and comprising an offset on the handle engageable with a shoulder extending laterally from the rock shaft and parallel to the face of the door, and an operable connection between the rock shaft and the bolt on the interior of the door.

2,287,492. REFRIGERATING SYSTEM. Harry A. B. Brown, Pittsburgh, Pa. Application May 27, 1940. Serial No. 337,464. 10 Claims. (Cl. 62-31.5.)



1. In a refrigeration system in which there is a tank of solid CO₂, a cooling coil, a control chamber, and passageway in heat exchange relationship with the solid CO₂ in said tank; said cooling coil, control chamber and passageway being connected in series to form an endless conduit for a liquid refrigerant, a CO₂ gas pressure line communicating between said tank and chamber providing for gas pressure in said chamber for causing periodic circulation of the liquid refrigerant through said conduit under influence of said gas pres-

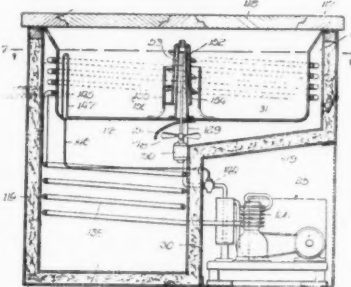
sure, control means for said gas comprising a valve body in said line provided with a single, movable valve element therein, ducts in said body for said gas controlled by movement of said element and arranged and adapted to establish gas communication between said tank and chamber, and the venting of gas in said chamber to the atmosphere, alternately upon movement of said valve element between two predetermined positions on said body, a float supported on the liquid refrigerant in said chamber responsive for movement between two predetermined levels of the liquid refrigerant in said chamber, separate spaced means secured to said valve element positioned for engagement by said float at said levels for moving said valve element to one or the other of said two positions according to the level of the liquid in said chamber.

2,287,662. REFRIGERATOR CABINET. Ralph E. King, Fort Wayne, Ind., assignor to General Electric Co., a corporation of New York. Application Aug. 27, 1940. Serial No. 354,397. 4 Claims.

1. In a thermally insulated refrigerator cabinet having a door opening, a door for closing said opening, means for maintaining said door in the closed position thereof, said door comprising an inner portion and an outer portion, sealing means carried by each of said portions for sealing the space between said door and the walls of said cabinet, a breaker strip of thermally resistant and flexible material closing the opening between said portions, and means extending between said door portions and constructed and arranged for urging apart said portions.

2,287,681. REFRIGERATING DEVICE FOR BOTTLED BEVERAGES. Frederick E. Hazard, Chicago, Ill. Application July 3, 1935. Serial No. 29,800. 27 Claims.

1. In a refrigerating device, an upper compartment provided with a tank forming a container for bottled beverages and the like, a refrigerating compartment below said tank providing a pre-cooler for



the bottled beverages, and a refrigerant-evaporator in said upper and lower compartments communicating to permit free passage of convection currents between said compartments.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, \$2.50. Three consecutive insertions, 12½¢ per word; minimum charge \$6.25.

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WANTED: Good refrigeration service man for Michigan city about 60 miles from Detroit. Good pay and car allowance and good working conditions. State full particulars and references. Box 1404 Air Conditioning & Refrigeration News.

WANTED—Refrigeration Sales Engineer by company with good supply of York and Kelvinator stock in defense area where usual and unusual applications can be found by aggressive man. Good sales record and car required. \$300.00 per month salary plus commission. OIL HEATING DEVICES, INC., Cleveland, Ohio.

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 Solder connections machined directly in valve body. Has patented rotating self-aligning tapered stem-disc. Resilient packing. Valve is back-seating, permitting repacking under pressure. Wing cap can be inverted and its socket used to operate valve cap sealing on bonnet provides additional protection against leaks. Unrestricted flow

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If there ever was a time when every refrigerator—household and commercial—had a big job to do, that time is NOW! America's food supply is a vital defense factor. And proper control is all-important in efficient refrigeration. Ranco is ready—with the world's most complete line of General and Exact Replacement Controls.

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Cooperative Service Program Sponsored By Pacific Utility

SAN FRANCISCO—With "Duration-ize your appliances with timely repair" as its battle cry, the Pacific Gas & Electric Co. is launching a coordinated industry repair service program to solve the appliance dealers' problem of how to make a profit under wartime economy. O. R. Doerr, general sales manager in charge of the program, disclosed this week.

To participate in this program dealers are required to comply with the qualifications established by their manufacturer or wholesale supplier, to maintain a place of business open continuously during the business hours of each day, as well as to have available the facilities, parts, and personnel to render a satisfactory repair service on the appliances they are authorized to repair. In addition, each dealer must agree to guarantee his repair service for a period of at least 90 days.

SIX-POINT REPAIR SERVICE PROGRAM

Primarily, the six-point repair service program initiated by P. G. & E. is designed to:

1. Provide the dealer with a needed activity to supplement restricted appliance profits;
2. Increase store traffic and stimulate the sale of reconditioned appliances and new merchandise remaining in stock;
3. Maintain public interest in all appliances and specific brand names carried;
4. Establish the store as a dependable repair service headquarters;
5. Present the dealer with an opportunity to make extra profits on appliance repair and reconditioning services;
6. Be a means of keeping up the health and comfort standards of the American home during this critical period.

TO RECOMMEND DEALERS FOR SERVICE WORK

Local P. G. & E. offices will keep a file of authorized dealers and recommend them on service calls, Mr. Doerr explained.

Already under way, this service plan will be publicized by means of a \$50,000 advertising campaign during the summer months, using newspapers, direct mail, and bill stickers. A cooperative local advertising plan whereby the company will pay one-third of the cost is available to authorized dealers, who will be supplied with authorized service and repair window decals and display cards.

Servel Recognized for All-Time Safety Record By National Council

EVANSVILLE, Ind.—An all-time safety record for "continuous man-hours worked without a disability injury" has been achieved by Servel, Inc. This was reported by the National Safety Council, Chicago, in a pamphlet just published summarizing the past year's injury experience in the industry.

Classified in the Metal Furniture Manufacturing Industry, Servel is credited by the National Safety Council with leading this industry with a record of 4,125,924 injury-free man-hours of continuous operation. The safety work at Servel is one of the major interests of Louis Ruthenburg, president of the company.

Factory Branches Are Added to L-38 List Of Distribution Groups

(Concluded from Page 1, Column 4)
tory branch or subsidiary of a producer shall be so included only if it is customarily billed in the same manner as are independent distributors by such producer, and if it was performing the functions of distributor for such producer as of May 15, 1942.

Copeland Executives Purchase Control of Company



Thompson, Buschmann, Curtis & Gleason Gain Control of Copeland

(Concluded from Page 1, Column 2)
chased land and buildings to house the operation.

With an increasing volume of sales realized during the last four years the four executives of the company have been able to complete their contract acquiring 62½% of voting control in the company, and now control it financially as well as from the actual operating standpoint.

In the 4½ years that the group has managed the business sales volume has increased from \$975,000 in 1938 to an estimated \$4,000,000 for the fiscal year ending Sept. 30 of this year, officials of the company declare.

Taxable income has gone from a loss of \$63,148.14 in 1938 to an estimated profit of \$425,000 for the current fiscal year.

Manufacturing floor area has been increased from 50,000 square feet to more than 200,000 square feet.

Grimes, Herr, Gillies Are Philco Officers

PHILADELPHIA — Election of three vice presidents of Philco Corp. has been announced by James T. Buckley, president.

David Grimes, one of the pioneers in the radio industry and chief engineer of Philco since 1939, has been made vice president in charge of engineering; Joseph H. Gillies, works manager of the company since 1939, has been named vice president in charge of radio production; and Robert F. Herr, manager of the company's parts and service division, has been made vice president in charge of service.

Grimes served in the last war as chief radio officer at Kelly Field, Texas, when the use of radio communications in warfare was just beginning to assume importance. After the war, Grimes joined the American Telephone and Telegraph Co. as a research engineer in telephony. In 1922 he established his own engineering organization to do research work on a consultant basis for a number of different companies. From 1930 until he joined Philco in 1934, Grimes was license engineer with RCA.

With Philco, Grimes was in charge of home radio set engineering until 1939, when he became chief engineer. A considerable number of important radio and television research projects have been carried to completion under his direction.

Gillies became associated with Philco in 1929, the year after the company entered the radio industry. After five years as factory engineer, he was placed in charge of the production development department in 1934, and was made assistant works manager in 1938. He became works manager in 1939.

Herr, during the 25 years he has been with Philco, has done much to advance the cause of radio service for the consumer.

This scene, originally enacted four and one-half years ago, took place again last week in Sidney, Ohio, when the four officers of the Copeland Refrigeration Corp. assumed controlling interest in the company from Dallas E. Winslow. Seated around the table are E. C. Burr; Dallas E. Winslow, who sold controlling interest; Harry E. Thompson, president; and Charles

L. Curtis, vice president in charge of production. Standing (left to right) are Oskar H. Buschmann, chief engineer; W. G. VonMeyer, sales manager; F. B. McKaig, of the Winslow organization; Frank J. Gleason, vice president in charge of sales. Controlling interest is now held by Thompson, Curtis, Gleason, and Buschmann.

Search for Vital Materials Intensified

WASHINGTON, D. C.—An intensified search for raw materials vital to war production and held by many companies who have stopped producing civilian goods is about to be initiated by the War Production Board. It has been indicated by the enlargement of the WPB Inventory and Requisitioning Control sections in various parts of the country.

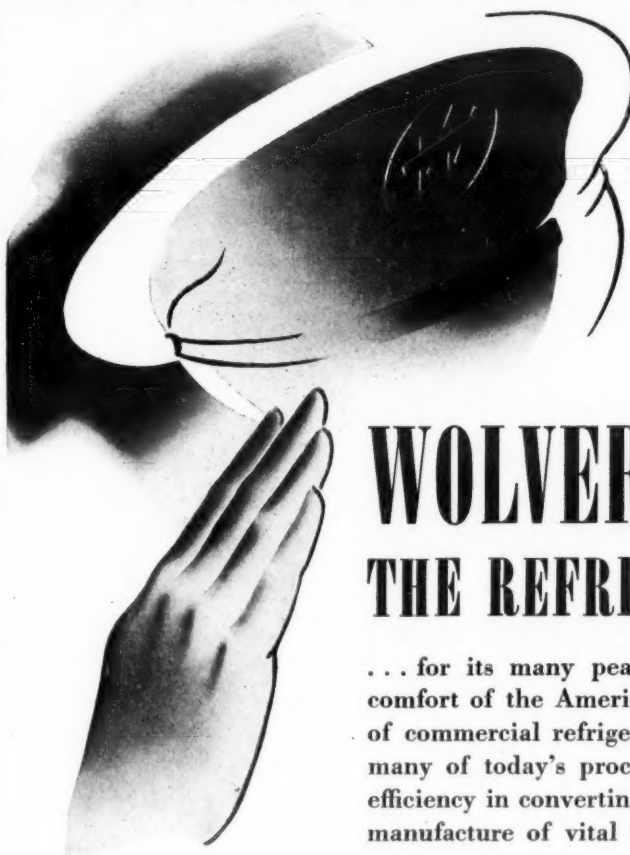
To lighten the difficulties of manufacturers whose stocks have been frozen, WPB has urged the establishment of a materials pool for frozen materials whereby producers would pool all their inventories.

If such a pool could be divided prorata, WPB believes, without the purchase of any additional critical materials necessary, then the manufacturers could formulate an appeal for the use of this material. Regional WPB offices are assisting manufacturers in the formation of pools for production.

The following raw materials have been moved into production since early March by the WPB Inventory and Requisitioning Branch:

	Pounds
Steel	108,000,000
Copper and brass	8,000,000
Iron	5,000,000
Tin	500,000
Lead	250,000
Nickel	1,500,000
Aluminum	1,000,000
Oils, chemicals, pharmaceuticals	4,000,000
Not included in this list are 105,000 pounds of copper and brass.	

COOPERATION WINS THE WAR



WOLVERINE SALUTES THE REFRIGERATION INDUSTRY

... for its many peace-time contributions to the health and comfort of the American people ... for its present production of commercial refrigeration systems which are so important in many of today's processing operations ... for its energy and efficiency in converting a large proportion of its facilities to the manufacture of vital war material.

Wolverine has been in the best possible position to observe every development and change in the refrigeration industry. Almost since the first refrigerators were manufactured, a large proportion of the tube used in the industry has been produced in the Wolverine mill. The manufacturing operations of this company have always been "part and parcel" of refrigeration progress.

Today, Wolverine still produces tube for refrigeration purposes. However, the greater part of our facilities is now employed day and night on War Work. When peace comes, though, these facilities will not only be available again but Wolverine will be in an even better position than in the past to serve the refrigeration industry.

Within the past few weeks, the Wolverine Tube Company has become the Wolverine Tube Division of Calumet and Hecla Consolidated Copper Company. As the fabricating division of one of the country's oldest copper mining companies, Wolverine now offers tube controlled in quality from raw material to finished product. It is the type of tube that will be unsurpassed for the refrigeration needs of the present and future.

WOLVERINE TUBE DIVISION
OF CALUMET AND HECLA CONSOLIDATED COPPER COMPANY
Seamless COPPER • BRASS • ALUMINUM
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